

Public Utilities

Volume 68 No. 5

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August 31, 1961

PERFORMANCE FROM PROFITS AND VICE VERSA

By Marvin Chandler

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The Rate Base versus "Just and Reasonable Rates" Part II.

By John H. Bickley

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Will We Ride on Sunbeams?

By Robert M. Hyatt

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Operation in Depth—A Tool for Management

CONTINUING TO SERVE BUSINESS AND INDUSTRY

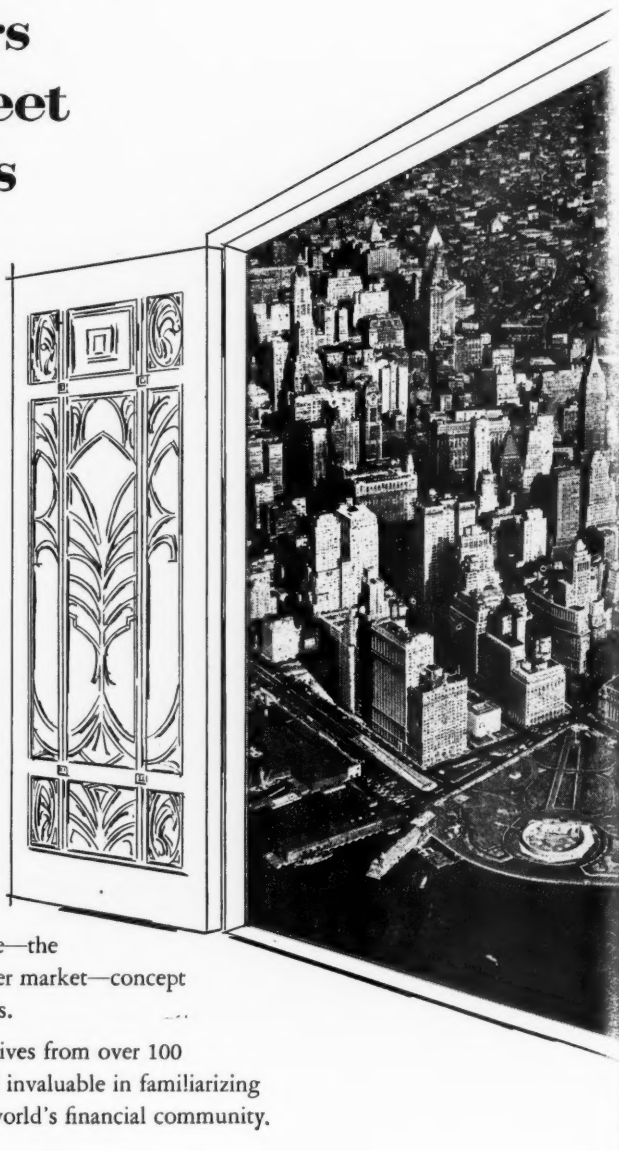
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NUMBER 5



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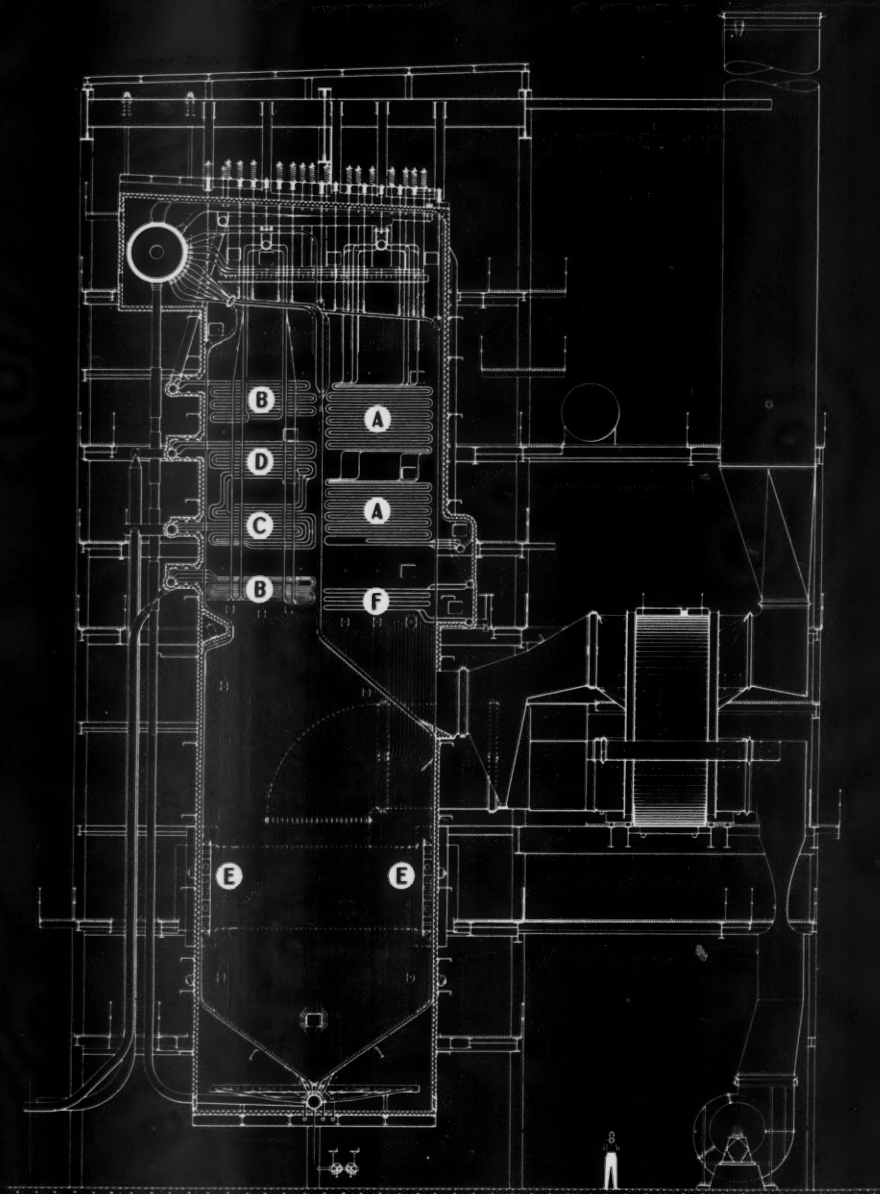
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- D** L.T. Reheater Section
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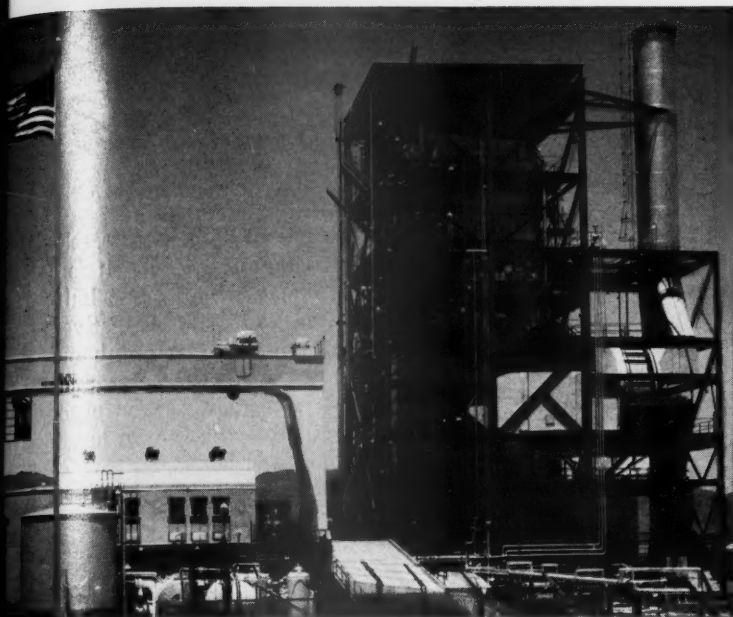
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New Cool Water Steam Plant goes into service

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62. Ocotillo
63. Darlington County
64. Port Everglades
65. Nichols
66. Eddystone
67. Brunner Island
68. Cool Water

TYPES OF STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; NUCLEAR REACTORS;
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Pages with the Editors

DESPITE a late start this has been a hot summer in more ways than one. With the Berlin crisis simmering and smoking like the proverbial two-dollar pistol, and such side shows as Laos and Cuba completing at least a three-ring spectacle, a lot of soul searching has been going on about our propaganda medicine. Are we dishing out the best stuff available? Are we really "communicating," as the public relation experts say? If so, why do the students and peasants and natives in Latin America and the Near East, not to mention Africa and points farther east, throw rocks at our embassies.

SINCE Mr. Khrushchey has made such a point of the advantages of Socialism, perhaps we are making a mistake in not talking more about the advantages of Capitalism. Yes, *Capitalism*, with a capital "C"—the people's Capitalism—meaning private enterprise for profit. In summing up the advantages of our American way of life for purposes of broadcasting behind the Iron Curtain and elsewhere, why don't we talk more about private enterprise as an ideal, as a form of cultural satisfaction instead of talking about it simply in terms of worldly possessions?

OUR Voice of America publicity boasts



MARVIN CHANDLER

about so many millions of telephones, television sets, modern housing, etc. It is a small wonder that some of these half-starved, enslaved, and exploited natives, whom we are trying to reach with our Voice of America and other propaganda efforts, should be actually resentful of what may seem to them like vulgar boasting of our material riches—riches which they can never hope to obtain in their lifetime.

WHEN are we going to tell them about *why* we follow our system instead of *what* it produces for us? Automobiles, television sets, etc., are simply economic dividends of our way of life, which may or may not be conducive to our individual pursuit of happiness. But the American way of life, as a whole, is greater than the sum of all its parts. Its true meaning cannot be added up like a column of figures.

THAT was the very fundamental mistake that Karl Marx made in emphasizing economic security above everything else, including the liberty of the individual. Such emphasis on secular security alone can only lead to the mastery of the state and the enslavement of the worker. What we may be failing to tell about our American system is the best part of all, that it provides a breeding place, an opportunity, whereby the individual citizen can develop his own idea, his own philosophy, his own pursuit of happiness.

THAT is real liberalism at its best, and it is only under a system of private enterprise that it can ever happen at all, anywhere in the world today. We are very proud of our "know-how." But is it possible that we have neglected our "know-why"? Take the telephone utility business as an example. There are almost 75 million telephones in the United States and by 1975 there will be over 100 million telephones. That is a lot of telephones.

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- 5 Should a utility request additional quantities of firm pipeline gas to meet future load requirements and if so, how much?
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But what are they going to be used for? What will 200 million people have to say over 100 million telephones?

THE same question goes for the manufacturing of more and more automobiles, the building of more and more highways. What for? To what purpose? It is a serious responsibility which the businessman must share with the educators and legislators. We hear talk of more mass production, automation, a shorter work-week, etc. What are we going to do with the benefits of leisure hours and modern mass conveniences?

THESE are serious social and cultural, as well as economic, questions which go into the "know-why," as distinguished from the "know-how" of which we Americans are so proud.

OF course, one man's "why" is not the same as another man's "why." One may be moved by a personal philosophy, another by a religious ideal. But the real point is that all of us are able to share and develop our individual ideas, side by side with our neighbors, only because we have a way of life, a system of government, an enterprise economy which makes us free to do so, encourages us to do so, and furnishes to each of us, if we are willing to work for it, the wherewithal to do so. No other system on earth can make that claim. We should recognize it; be proud of it, and export it as the real goal of our American way of life.

SURELY we are not going to turn out blindly more and more facilities in mass production just for the sake of adding up the numbers and bragging about how smart we are! To do so would be to miss this ideal behind this will to serve. We would be losing the best part of the harvest which our American way of life is capable of growing.

LORD Thomas Macaulay once said—somewhat cynically—that as we become more sophisticated we become poorer poets and better thieves. That is going a little far but it does seem, at times, that

where ideals are concerned, some modern world cultures are trying to travel ahead on a moral momentum generated by the ideal of our ancestors—ideals which some modern societies may reject as old-fashioned. But they are ideals which have not been replaced by anything better or more workable.


THE American businessman knows all this in his heart, of course. He knows why he obeys the laws—not through fear of consequences if he violates them. He obeys them because he knows that compliance is the only way an orderly society can proceed and expand. More than that he knows that an orderly society and compliance with the same provide the most conducive climate for business growth and resulting profits.

WHILE on the subject of profits, there is another paradox which is thoughtfully covered in the opening article in this issue. We assume that a good business performance is necessary to produce good profits. But how much time and attention have ever been given to the equally true converse of this proposition; namely, that good profits are not only conducive but necessary for good service performance?

THAT is the proposition to which MARVIN CHANDLER, president of Northern Illinois Gas Company, addresses himself. MR. CHANDLER is a graduate of Dartmouth College (AB, '32) and Harvard School of Business Administration (MBA, '34, cum laude). He started his career as a utility security analyst with the investment firm of Smith, Barney & Company and later with the Merrill Lynch, Pierce organization. He headed his own New York security consulting firm of Reis & Chandler before becoming president of Northern Illinois.

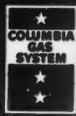
THE next number of this magazine will be out September 14th.

The Editors



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Coming in the Next Issue...

(SEPTEMBER 14, 1961, ISSUE)

NEW RÔLE FOR DEBENTURES IN UTILITY FINANCING

Harold H. Young, well-known security analyst and now a limited partner of Eastman Dillon, Union Securities & Co., has often been asked the question: "Why don't utility companies make more use of debentures instead of preferred stock?" Recently the Securities and Exchange Commission did something about this in the form of a decision in the so-called *Penelec* case authorizing the issuance of 25-year debentures by Pennsylvania Electric Company. This writer feels that there is much to be said for debenture financing and that the state regulatory commissions are going to be influenced by the SEC precedent.

SOME CURRENT ECONOMIC PROBLEMS OF REGULATED BUSINESSES

There are few people on the American scene today better qualified to discuss the community of interest, if any, between regulated utility enterprises than Nelson Lee Smith, until recently the vice president of American Airlines and still a consultant for that company. What does a regulated air-line company, for example, have in common with a telephone company or a gas and electric utility company? This writer calls the roll of regulatory and financial problems which bedevil all members of the utility family and suggests some reliable and helpful guiding principles.

TALKING TO EMPLOYEES—ABOUT WHAT?

Employee magazines are big business today. Indeed, quite a few of the house organs of this type have become larger, better prepared, and considerably older and better established than many magazines of general circulation now on the newsstands. There is a wide variation of concept, however. Some are still more or less confined to matters of immediate or personal employee interest; others have broadened to include even international problems. In between these extremes, there are chatty, helpful items about health, financing, good and bad habits, the great outdoors, etc. James H. Collins, our entertaining business practices inspector, has taken a bookworm's eye view of all this.

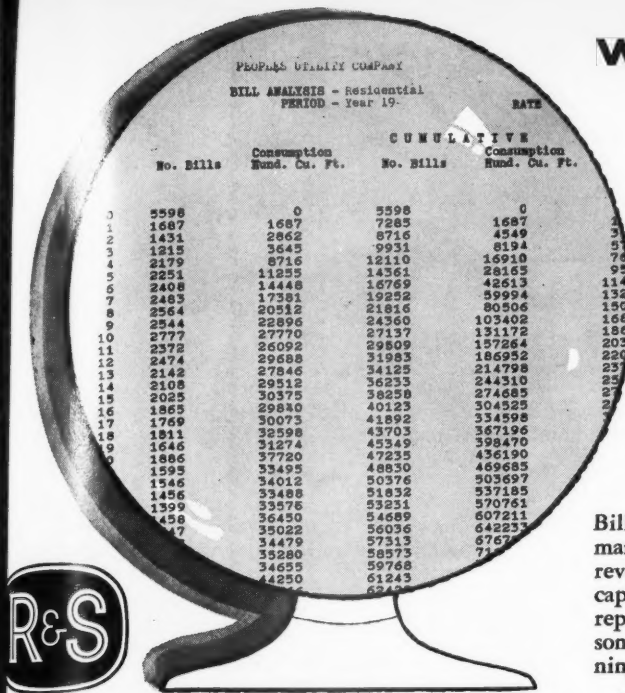
UTILITY ADDRESSES BEFORE THE PUBLIC UTILITY LAW SECTION, AMERICAN BAR ASSOCIATION—APPENDIX

Important addresses on developments during the past year, as well as on current and future problems in the field of regulatory law, were delivered before the annual meetings of the Public Utility Law Section, held in St. Louis, Missouri, August 7th to 9th, contemporaneously with the national convention of the American Bar Association. Full text of these papers will be reprinted in the September 14th issue of *PUBLIC UTILITIES FORTNIGHTLY*.

AND IN ADDITION . . . Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.

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Director of traffic, Allied Chemical Corporation.

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JOHN G. TOWER
U. S. Senator from Texas.

"We cannot hope to defeat international Communism by becoming more and more like the very system that seeks to destroy us."

JOHN H. FREDERICK
Head, business organization department, University of Maryland.

"The development of the [railroad] unification process must rest on voluntary negotiations, and must be the product of evolution rather than government fiat."

CLARENCE CANNON
U. S. Representative from Missouri.

"Whoever controls this nation's sources of electricity controls the nation. What difference does it make whether Uncle Sam or the private utilities have that control?"

EDITORIAL STATEMENT
The Washington Daily News.

"The 'aging' must have enjoyed that news picture of a 50-year-old retired circus elephant pulling a 1961 automobile out of a lake and back on the road—a tow truck had failed."

LESTER T. POTTER
President, American Gas Association.

"Our future is bright and there is no foreseeable supply limitation which would affect the natural gas industry's ability to expand and provide additional energy for the nation."

DWIGHT D. EISENHOWER
Former President of the United States.

"The mania that some overzealous central agencies seem to have developed for wanting to dominate rather than serve local government threatens to sap the vitality and creative initiative of community institutions."

ARTHUR LANCKTON
Executive, Mobil International Oil Company.

"In the oil business, we are finding it much tougher today to gain the approval of foreign governments for proposals made on a straightforward, tax-paying basis. . . . In many areas of Europe and Latin America, what private enterprise there is seems to exist largely on sufferance. Nearly half of the people in Western Europe, in free elections, vote for parties advocating some degree of collectivism. Many others favor cartels and monopolies—they do not seem to be interested in competitive private enterprise as we know it. . . . This problem is a vital concern to all Americans in this increasingly interdependent world of ours." •

Utilities Events Calendar

CHECK THESE DATES:

- Sept. 5-8—Woodward Governor Prime Mover Control Conference will be held, Rockford, Ill.
- Sept. 6—New Jersey Gas Association will hold annual meeting, Spring Lake, N. J.
- Sept. 6-7—Tennessee Telephone Association will hold annual convention, Nashville, Tenn.
- Sept. 6-8—Joint Nuclear Instrumentation Conference will be held, North Carolina State College, Raleigh, N. C.
- Sept. 6-8—Northwest Public Power Association, Power Use Section, will hold annual workshop, Forest Grove, Ore.
- Sept. 7-8—Public Utilities Advertising Association, Region 7, will hold meeting, Minneapolis, Minn.
- Sept. 7—Southern Gas Association, Accounting Section, will hold systems and procedures round-table conference, Dallas, Tex.
- Sept. 8—Southern Gas Association, Accounting Section, will hold machine accounting round-table conference, Dallas, Tex.
- Sept. 10-13—Rocky Mountain Electrical League will hold annual fall convention, Moran, Wyo.
- Sept. 11-12—American Gas Association—Edison Electric Institute will hold joint accounting section organization meeting, Cincinnati, Ohio.
- Sept. 11-12—Arkansas Telephone Association will hold annual convention, Hot Springs, Ark.
- Sept. 11-12—Edison Electric Institute, Sales Division, Electric Space Heating and Air-conditioning Committee, will hold meeting, Detroit, Mich.
- Sept. 11-12—National Rural Electric Cooperative Association, Region V, will hold meeting, Eau Claire, Wis.
- Sept. 11-13—Annual Accident Prevention Conference will be held, Dallas, Tex.
- Sept. 11-15—Instrument Society of America will hold fall instrument-automation convention and exhibit as well as annual meeting, Los Angeles, Cal.
- Sept. 12-14—Eastern Wood Pole Conference will be held, State University College of Forestry, Syracuse, N. Y.
- Sept. 12-14—Mid-West Gas Association will hold school and conference, Ames, Iowa.
- Sept. 13—New England Gas Association, Appliance Servicing Group, will hold meeting, Marlboro Country Club, Mass.
- Sept. 13-14—American Water Works Association, New York Section, will hold annual meeting, Saranac Lake, N. Y.
- Sept. 13-14—Edison Electric Institute, Sales Division, Residential Promotion Committee, will hold meeting, New York, N. Y.
- Sept. 13-15—American Water Works Association, North Central Section, will hold annual meeting, Minneapolis, Minn.
- Sept. 13-15—Edison Electric Institute, Sales Division, Farm Group, will hold meeting, New York, N. Y.
- Sept. 13-15—Pacific Coast Gas Association will hold annual convention, Coronado, Cal.
- Sept. 13-15—Rocky Mountain Telephone Association will hold annual convention, Boise, Idaho.
- Sept. 14—Vermont Electrical Association will hold fall outing, Fairlee, Vt.
- Sept. 14-15—American Society of Mechanical Engineers—American Institute of Electrical Engineers will hold engineering management conference, New York, N. Y.
- Sept. 14-15—Georgia Telephone Association will hold annual convention, Jekyll Island, Ga.
- Sept. 14-15—Public Utilities Advertising Association, Region 5, will hold meeting, Birmingham, Ala.
- Sept. 14-16—Public Utilities Association of the Virginias will hold annual meeting, White Sulphur Springs, W. Va.



Eddie Hoff, Photography

Teaching an Old-timer a New Technique

This photo illustrates a unique combination of a 1912 Baker electric automobile and a solar panel. The panel converts sunlight into electricity which is then fed into the car's storage batteries. (See, also, page 306.)

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Public Utilities

FORTNIGHTLY

VOLUME 68

AUGUST 31, 1961

NUMBER 5



Performance from Profits and Vice Versa

A review of twenty points by which are tested the simple proposition that profits of a utility are just as important in the achievement of general service performance as service performance is necessary for the production of profits.

By MARVIN CHANDLER*
President, Northern Illinois Gas Company

It is generally agreed that profits flow from performance. The other half of this equation, that performance comes from profits, is perhaps less obvious. Yet this writer is convinced that both propositions are true. In fact, if an enterprise is to progress, both profits and performance are necessary. Each one will produce the other, and without both, no enterprise can long succeed, can long progress.

Performance and profits are as closely

linked and inseparable as other great twins, such as Damon and Pythias, ham and eggs, hodge and podge, or that pair celebrated in song, love and marriage. It will be recalled that they "go together like a horse and carriage." In that respect, they differ from profits and performance. We know that love, like the horse, comes first, but we do not know whether, in this duet, profits or performance is the horse. All we know is that, as the song goes on to say, "You can't have one without the other."

Let us consider the less acceptable theo-

*For additional personal note, see "Pages with the Editors."

PUBLIC UTILITIES FORTNIGHTLY

rem first, that performance is the result of profits, and then take up the other proposition, whether performance can be helpful in producing profits.

The customary concept of profit is that of a residue—what is left over, if anything, after selling the product or service and paying all expenses. Too often that is the popular concept. But why not think of profit as more than a residue—as a catalyst or energizer that starts the whole cycle going? Let us, therefore, first view the profit—the prospect or hope of it—as the starting point, rather than solely as the finish line.

Let us assume that we have a successful, profitable, progressive enterprise. What are some of its characteristics that make it respected and envied? Let us enumerate them, bearing two thoughts in mind.

First, there are characteristics which are vital to producing profits. They are performance.

Second, there are characteristics which profits make possible. They are derived from profits. They will not be found in the marginal enterprise. In fact, one may find their opposites. These are things which virtually all managements want to do but which become possible only to the extent that profits provide the "elbowroom."

Now let us examine twenty points by which can be tested the proposition that profits are just as necessary for performance as vice versa.

Attraction of Capital

1. If the average person were asked what was the first result of profits, the answer would likely be, "the attraction of capital." So let us start there. Profits

permit attracting capital at the lowest cost. The more profitable the enterprise, the more favorably it is regarded by investors, and the lower the cost of capital.

Look at AT&T. When it was struggling hard to earn its historic \$9 dividend a little over ten years ago, fighting for more rate increases to hold the profit line, it was yielding 5.5 per cent to investors. Now, with its rate structure better established at levels which make additional business profitable, and with evidence of that profitability in two dividend increases in two years, it yields about 3 per cent. Its cost of capital appears to have dropped as its profits have risen. So here is one cost that declines as profits rise. Profits produce performance.

Sound Capital Structure

2. WHAT else can profits do for us, capitalwise? Well, good profits and low-cost capital permit building a sound capital structure. We can afford to build up the common equity (after all, we have the elbowroom) instead of increasing the debt, because it appears to have the lowest immediate cost and its leverage may show better short-run earnings on the common.

Look at AT&T again. In the late 1940's, when profits were low, its debt ratio had crept up from 31 per cent to around 50 per cent in three years. Since then, with profits on the rise, debt is back to 35 per cent in the area which its management is convinced is the optimum over the long run. A sound capital structure, permitted by profits, we all know provides the utmost in financing flexibility, and the best assurance of raising capital under all conditions.

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Planned Construction

3. WHAT more can the profitable company do? It can build its plant ahead of need, and never be caught short. With capital cheap, and elbowroom from earnings, it can look ahead, so that it is always ready to serve when the need arises. It can afford long-range planning and it can afford to act on the plan.

Technical Improvements

4. WITH profits and low-cost capital available, management need not hesitate to install technological improvements which give promise of holding down costs.

This writer is happy to be with a profitable company; not as profitable as he would like to see it, and hopes to make it, but generally very fortunate. The company is installing a computer for dispatching which will cost over half a million dollars. But it will read the meters and gauges and compute the take from some 50 pipeline taps in seconds instead of over half an hour. And it will do it all in the dispatcher's office, whereas now, this company has men going out every hour to make and phone in visual readings at many of those points. The management did not have to think very long about this outlay, but if it were strapped for capital because of low profitability, it might have been shelved. The profits permitted the achievement of this performance, which will in turn augment the profits. We may wonder how many such projects the railroads know of, but cannot afford.

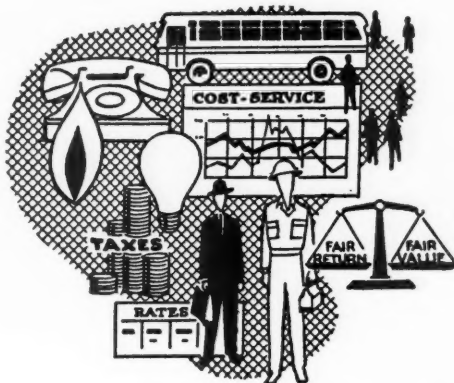
Accounting

5. PROFITS permit keeping the books conservatively.

Is this of interest to anyone but accountants? Certainly it is! When accounting decisions can be made in the environment of "What is right? What is sound? What is proper?" instead of, "Can we afford it?", the enterprise, including its management, employees, investors, and customers will be better off in the long run. If doubtful items cannot be written off immediately, if it is necessary to capitalize instead of charging to operating expense, burdens are merely being passed on to future management and future customers. If they can be handled now, then there is that much better prospect of the enterprise being able to keep its prices competitive and continue to thrive in the years ahead.

Taking Care of Employees

6. NEXT let us turn in another direction. Profits permit paying good salaries and wages, and taking good care of employees upon layoff, illness, or retirement. This in turn will attract the able, educated, enthusiastic personnel who will produce the performance needed to generate and perpetuate profits. Moreover, profits permit rewarding good perform-



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ance, and there is nothing like the incentive of tangible reward to work harder and better.

Better Working Conditions

7. THE next point follows this same idea. Profits permit providing modern, efficient, attractive working conditions—whether it be the office, the plant, or the equipment in the field. And this environment again should attract, retain, and inspire the best personnel.

Developing New Leaderships

8. THE next point is especially significant, because again it relates to people, and it is to people whom we must look for performance and profits. With profits, we have the elbowroom to develop people. Although development comes primarily from doing the job, not from being told how to do it or watching someone else do it, nevertheless, there are aids we can use.

With profits, we can add people as well as plan ahead of the precise moment of need. We can provide back-up for our good men, who can coach their successors, instead of operating with a skeleton staff. We can, in other words, have some depth on our bench. And to carry the analogy further, if we are several runs ahead—that is, are enjoying a good profit—we can let the rookies into the game, so that they will be more experienced when we need them next year or the year after.

We can take some of the other well-recognized management development steps, too, if we have that important elbowroom, such as:

Job rotation, even if efficiency is temporarily lowered.

Training sessions on company time. Outside training, including management seminars of several weeks' duration.

Encouragement to outside study through tuition refund plans.

Broadening through attendance at outside conferences and engaging in outside committee work in trade associations, and the like.

Employee Information

9. Now let us consider the fact that profits let us keep our employees informed. Telling them costs money. It cannot all be done through the house organ and bulletin boards. It means calling them together regularly in small groups on company time. It means that every supervisor must take some time from the immediate task at hand. And to communicate effectively, the supervisor must himself have been communicated to effectively.

Is this important? If we do not take the time to tell them about our company, our industry, its product, our policies, our responsibilities to our customers, how can we expect enthusiastic performance from them?

Safety of Operations

10. NEXT, a profitable company is a safer, more dependable company. It can afford to spend more money on employee safety and on customer and public safety.

Injecting the writer's experience again, mobile radio now permits the company with which he is associated to get to a trouble point much quicker. This decision might not have been made so readily were the company strapped for earnings and capital. When

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the gas company in Bloomington, Illinois, was taken over in 1955, it was short of both. The lost and unaccounted for gas was almost 30 per cent. Much of this was leaking from the mains right in the business district. Safety had been sacrificed. Profits were short, so performance suffered. Now, with the resources available which our profits provide, all but about 6 per cent of the gas is accounted for, and the proportion still is declining.

Trying Out New Ideas

11. WHEN capital and earnings are available, innovation can be tried. The consequences of an experiment failing can be borne. Out of innovation and experimentation come performance and progress. If you are doing anything the same way you did five years ago, you must be wrong. There is bound to be a better way today. Without innovation, any enterprise will soon slip to the rear.

More Research

12. NEXT let us look at the same proposition in a little broader way. Profits permit research, research either directly by oneself or the support of research by others. Research is the route to

new and better products, appliances, and service to our customers, and to better methods of operation within our companies. One of the characteristically least profitable industries is textiles. In that industry, improvement in manufacturing machinery has been slow, and when it came to new products, it was not the textile, but the chemical industry that produced rayon, nylon, and the other miracle fabrics. In other words, research, which must be financed from profits, in turn should produce higher sales and lower costs, or expanded profits. The catalyst first, the residue later.

Better Promotion

13. ANOTHER item to be considered is that profits permit vigorous promotion and selling. Here certainly is an easy place to cut expense when profits are thin. But has pulling in promotional efforts ever reversed a down swing in profits? It is certainly doubtful. Sales growth is needed to build volume, hold down or reduce prices, utilize plant fully, and enhance profits.

Customer Relations

14. NEXT, profits permit better service

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to the customer. The prosperous company can provide more free service, can furnish service more promptly, can train its service people better. In turn, of course, this kind of service performance brings the customer back, and augments sales and profits.

Area Development

15. OUR next point is along the same line: Profits will support an active area development program, designed to encourage communities to plan for the future, and to help them in attracting new industry and in urban renewal. All of these results of an area development program, producing a more prosperous, growing territory, of course will flow back into more sales.

Community Relations

16. PROFITS permit more generous support of community, civic, and welfare projects. Contributions toward capital funds for educational, health, and charitable institutions should earn their way in the future, as these institutions strengthen the community. The company, too, as a donor and supporter will find its reputation enhanced and its relations with the public and with civic officials bettered. The impoverished and therefore stingy company will find troubles flowing to it from its inability to do its share.

Better Maintenance

17. STILL following this general theme is the point that profits permit serving the public convenience and desire better, by keeping properties and equipment neat and attractive, by performing work with minimum public inconvenience, and by cleaning up thoroughly and restoring when through.

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Overall Relations

18. NEXT, profits are the foundation for a public relations program broader than the facets just outlined in the few preceding points. Such a program may involve comprehensive investor relations activities, school programs, scholarships, a speakers' bureau, films, or many others.

Industrial Relations

19. AGAIN, only with satisfactory profits can a company carry its fair share of organized industry activities. This may be advertising, promotion, public relations, or research. But these joint efforts themselves certainly are necessary if our industries are to survive and thrive.

Rate Adjustments

20. THE final point on the list should certainly not be last nor the least in our thinking. Profits permit price reductions! And lower prices in the long run will develop more business and more profits. Where gas and electric rates are the highest, profit records tend to be the worst. High rates do not assure high profits because they do not reflect performance.

Too often in the utility business, we get to thinking that a rate reduction is a terrible calamity. We can easily find ourselves hoping that what we may come to think of as "the evil day when we have to reduce rates" will never come. Let us guard against this philosophy. The day we cut our rates is a wonderful day—the day when our performance has let us take a most constructive step. In these postwar years of inflation and wage push, this day comes much too infrequently. But let us not lose sight of it as a goal.

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Now, think back over these twenty ways in which profits permit performance. It should be apparent that these might well have been listed as a formula of performance in order to produce profits, "You can't have one without the other."

To some people profits is not the proud word it should be, but a suspicious word, if not a bad word. Yet, if you submitted these twenty points to the vote of utility customers and the public, they would not find much if anything to quarrel with in them. After all, they spell out the kind of policies and programs which the customers want their utilities to have.

Would the customer be opposed to a low cost of capital, a sound capital structure, plant built in anticipation of need, installation of technological improvements? Would he argue against conservative accounting? Would he take a stand against good wages and benefits, good working conditions, an adequate supply of capable, well-informed employees, well-trained and developed for the future? Would he oppose innovation and research, safe operation, a solid program to build sales, or good service? Would the customer or public prefer that the utilities refrained from community service, in the form of area development, contributions, and public convenience? Would they quarrel with a goal of lower prices? The answers are obvious.

THERE is something else to be noticed about this 20-point success program. It need not be limited to electric or gas utilities. Most, if not all, the points apply to any form of business. The profitable industries are the ones that have served

their customers and the public the best—the chemical and pharmaceutical industries, the food chains, and the biggest merchandisers. The unprofitable are the ones we kick about—the railroads and urban transit companies. Profits and performance produce progress.

Now let us return to the premise that was agreed at the outset would meet with general agreement—that performance means profit. Most employees would concede this to be true. But the individual fails to see how his performance is profitable to him. His own effort seems too small in relation to the whole enterprise. Utility employees must be persuaded that their own performance collectively will build profits, so that profits will mean progress to them. Performance and profits are the sum total of the minor achievements of everyone—not just the result of a few brilliant decisions by a few men at the top.

Utility companies must bring not only management but all employees to feel a



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personal responsibility for, and a personal participation in, the well-being of the company organization.

Utility people must always beware of the trap of complacency that may have come about in the somewhat sheltered security of a regulated company. Inadequate performance, although not as quick a form of suicide as in some industries, nevertheless can doom even the regulated company to failure. So to develop performance, we must think in terms of how everyone's job can produce maximum profits.

We do not have to look far for the answer. It is written in every textbook on how to manage.

We must first set our goals. We must know what we are trying to achieve and have specific targets in terms of amount of accomplishment and time of accomplishment to reach these goals.

We must organize our work and our people to accomplish the plan. We must keep the tightest work force needed, resisting the influence of "Parkinson's Law." We must seek to reduce layers of supervision and expand the span of control—the number of people each boss supervises. Thereby, we can avoid fat, delegate responsibility and authority down to the point of action, and stretch people's abilities.

We must control. Having set the goals and established the plan, we must measure our success or failure.

FINALLY, we must lead. We must motivate, we must inspire, we must re-

ward. We must instill the desire on the part of the individual to improve himself, to move ahead. We must develop an enthusiasm for accuracy coupled with productivity. Above all, we must increasingly search for the better way. We must view the status quo with disdain, not respect.

We must see that change is welcomed, not suspected or feared. We must regard as the highest talents, imagination, creativity, resourcefulness. Remember that in the words of Crawford Greenewalt, president of duPont, "The story of America is the story of common men who, whatever their motives, whatever their goals, were inspired to uncommon levels of accomplishment."

We will only be successful in leading those around us if we first follow this path ourselves.

Conclusion

WITH due respect we might consider in paraphrase, President Kennedy's stirring inaugural appeal:

Ask not what your company can do for you.

Ask what you can do for your company.

If everyone of us, and everyone associated with us, could do his job *for the company*, we would all soon find *the company* doing *for us* more than we can visualize—because we would have achieved, collectively and individually, performance, and profits, and progress.

The Rate Base *versus* "Just and Reasonable Rates"

Part II

A review of the relationship between the composition of the rate base and the fixing of reasonable rates. Certain questions are raised as to the consistency of different policies in different areas of the United States. A critical analysis is made of the economic basis for the prudent investment theory of rate-making valuation.

By JOHN H. BICKLEY*

AN excellent illustration of the possible inequities of an investment rate base is found among natural gas pipeline companies. Some, or their predecessors, have existed for a number of years, others are of more recent origin, and still others are newborn. The older companies built their lines, compressor stations, and other facilities, and, in some instances, acquired gas reserves at materially lower prices than did those companies that came upon the scene at later dates.

Because of this early arrival, they possess more property per dollar invested

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than the more recently organized companies. Does this mean that they should earn less in relation to pipelines, compressor station capacity, and volume of gas reserves, than the companies whose costs are higher? If the answer is in the affirmative, a penalty is imposed on low-investment companies, and possibly also on foresight. There is no support in logic or equity for such action.

Investment cost is still not essentially the value of property for any purpose. Hence, in those jurisdictions in which fair value is a criterion of just compensation, the simplicity of actual cost is not overriding.



The No Formula Doctrine of Natural Gas Pipeline

THE major opening wedge against consideration of reproduction cost and fair value came nineteen years after Mr. Justice Brandeis advanced the prudent investment theory. In *Federal Power Commission et al. v Natural Gas Pipeline Co. of America et al.* 315 US 575, 42 PUR NS 129, 138, decided March 16, 1942, Mr. Chief Justice Stone, speaking for a unanimous court, said:

The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas. Agencies to whom this legislative power has been delegated are free, within the ambit of their statutory authority, to make the pragmatic adjustments which may be called for by particular circumstances. Once a fair hearing has been given, proper findings made, and other statutory requirements satisfied, the courts cannot intervene in the absence of a clear showing that the limits of due process have been overstepped. If the commission's order, as applied to the facts before it and viewed in its entirety, produces no arbitrary result, our inquiry is at an end. (Emphasis supplied.)

This was immediately heralded by many, including three members of the court, as the death knell for the fair value doctrine, but, ironically, in a case in which the Federal Power Commission used a reproduction cost rate base, although "reluctantly," in passing upon Natural Gas Pipeline's rates.

BUT it may be questioned whether the court in the Natural Gas Pipeline

case had repudiated fair value. There was no suggestion that the commission was not still free to consider reproduction cost estimates. The significant departure from earlier rulings was not so much the pronouncement concerning formulas, but the emphasis placed on the end result, and, as it developed later, the self-imposed limitation on the court's power of review: "If the commission's order, as applied to the facts before it and viewed in its entirety, produces no arbitrary result, our inquiry is at an end." It was on this point that Mr. Justice Frankfurter spoke in an opinion concurring in the court's order of reversal, but maintaining the court's power of review.

Nevertheless, the gates were thrown wide open and not since has the Federal Power Commission attached any weight to reproduction cost, but going to the other extreme has given exclusive consideration to original cost, defined as the cost to the person first devoting the property to public service, after a deduction for depreciation.

The Any Method, End Result of Hope Natural Gas Decision

ANOTHER clearly revealed chapter in utility rate regulation started close on the heels of the Pipeline case in the equally historic case of *Federal Power Commission v Hope Nat. Gas Co.* 320 US 591, 51 PUR NS 193, decided January 3, 1944. The court now sustained rates based exclusively on original cost, referred to as "actual investment cost." The Federal Power Commission had entered its order in the Hope case seventy-one days after the court's decision in Pipeline. *Smyth v Ames* was no longer a ghost as far as federal doctrine was

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concerned. There disappeared even that faint shadowy semblance that is supposed to have "haunted utility regulation."

INSTEAD of the fair value rule, there was proclaimed the elusive and indefinite end result theory, in spite of any infirmities in the method leading to the result. And in doing so there was sustained a "single formula" for rate making to which the Federal Power Commission has devotedly adhered.

Mr. Justice Douglas expressed the new philosophy:

... The commission refused to place any reliance on reproduction cost new, saying that it was "not predicated upon facts" and was "too conjectural and illusory to be given any weight in these proceedings." ... It likewise refused to give any "probative value" to trended "original cost" since it was "not founded in fact" but was "basically erroneous" and produced "irrational results." ...

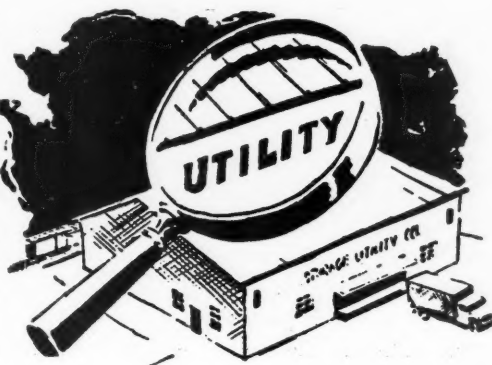
We held in *Federal Power Commission v. Natural Gas Pipeline Co.*, *supra*, that the commission was not bound to the use of any single formula or combination of formulae in determining rates. Its rate-making function, moreover, involves the making of "pragmatic adjustments." ... And when the commission's order is challenged in the courts, the question is whether that order "viewed in its entirety" meets the requirements of the act. ... Under the statutory standard of "just and reasonable" it is the result reached, not the method employed, which is controlling. ... It is not theory but the impact of the rate order which

counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the act is at an end. *The fact that the method employed to reach that result may contain infirmities is not then important.* Moreover, the commission's order does not become suspect by reason of the fact that it is challenged. *It is the product of expert judgment which carries a presumption of validity.* And he who would upset the rate order under the act carries the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences. ... (Emphasis supplied.)

ALTHOUGH in the Natural Gas Pipeline case there were no dissents, two years later in the Hope case vigorous dissents were entered by three members of the court who had joined in the earlier decision.¹ They disagreed with most of the reasoning of the majority.

The most serious aspect of the Hope decision is not the pronouncement that

¹ There was one change on the court, Mr. Justice Byrnes having resigned and Mr. Justice Rutledge having been appointed.



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"The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulae." This appears to have been the law, as expressed in the court's opinion in the Los Angeles case. Neither is there any inherent wrong in the end result doctrine, provided there are appropriate standards. The serious impact of the Hope decision is the pronouncement that "The fact that the method employed to reach that result may contain infirmities is not then important." When to this is added: "It [the commission's order] is the product of expert judgment which carries a presumption of validity," any disagreement by utilities or others with a commission's order becomes futile, unless arbitrary or capricious action can be established. All that a commission need do is to declare that its findings are "just and reasonable" and the court will not question the method, or review the results, even though the method has infirmities. "And he who would upset the rate order under the act carries the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences." The burden is heavy indeed.

THE logical conclusion to be reached from such limitation of the court's power of review is that, as Mr. Justice Jackson observed, "review becomes a costly time-consuming pageant of no practical value to anyone."

Something more objective might be expected than the mere say-so of a commission making a finding. That the end result is all important in spite of any infirmities in the method employed is an

illogical and dangerous doctrine. The results in rate regulation are influenced by the method employed, and it is unlikely that unsound methods will produce fair results, except by chance.

Furthermore, what makes a commission's judgment expert, with a presumption of validity, is not always apparent. Perhaps regulators become "expert" by appointment or by popular election. Others are equally expert. Any presumption in favor of a regulatory agency should be predicated upon there being a "rational process" in which the agency gives the reasons for its judgment with sufficient explicitness that the reasons and the result can be appraised.

MR. JUSTICE JACKSON disagreed with the entire theory adopted for the regulation of natural gas companies, especially as it applied to gas reserves:

The heart of this problem is the elusive, exhaustible, and irreplaceable nature of natural gas itself. Given sufficient money, we can produce any desired amount of railroad, bus, or steamship transportation, or communication facilities, or capacity for generation of electric energy, or for the manufacture of gas of a kind. . . . But the wealth of Midas and the wit of man cannot produce or reproduce a natural gas field.

Later he differentiated between two components of Hope's business—that of a transportation company and that of reducing to possession an adequate supply of natural gas. As to the first, he was of the opinion that a rate base calculated on prudent investment is a reasonably satis-

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factory measure for fixing a fair return. His disagreement was with prudent investment as a criterion for fixing natural gas prices.

Mr. Justice Jackson was critical also of the commission's construction of its statutory duty and its freedom to accept prudent investment as being all-important; he believed the commission misconstrued its objective; he did not agree that a "given rate is reasonable just because the commission has said it is reasonable"; and he possessed no "instinct by which to know the 'reasonable' from the 'unreasonable' in prices."

MR. JUSTICE FRANKFURTER joined in Mr. Justice Jackson's analysis of the Natural Gas Act of 1938. He criticized the failure of the court to require standards as to what is just and reasonable; he was not too impressed by the skill of experts; and he would require the commission to "set forth with explicitness the criteria by which it is guided in determining that rates are 'just and reasonable.'"

Mr. Justice Reed's disagreement with the court arose "primarily from its view that it makes no difference how the com-

mission reached the rate fixed so long as the result is fair and reasonable."

While the Pipeline and Hope decisions released the Federal Power Commission from required consideration of reproduction cost, and the Hope decision encouraged sole reliance on prudent investment, commissions are still free to give weight to the former. It is only by economic predilection that the Federal Power Commission and several state commissions accord exclusive weight to original cost.

Reproduction Cost

ALTHOUGH there has been a widespread use of depreciated original cost as the rate base in recent years, there have been few instances in which exclusive weight has been given to reproduction cost, except in Ohio, where reproduction cost less depreciation is the statutory rate base.²

Reproduction cost, is an estimate, at best, and sometimes the estimates contain many questionable theories and assumptions. Commissions and courts for years have been critical of such estimates, and

² Re Ohio Bell Teleph. Co. (1954) 8 PUR3d 136, 139. City of Cleveland et al. v Ohio Pub. Utilities Commission (Ohio Sup Ct 1956) 13 PUR3d 276, 278.

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often properly so. Too frequently the estimates have not been "predicated upon facts" and have been "too conjectural and illusory" to be given any weight. Reproduction cost studies are time-consuming and costly, when prepared with a high degree of accuracy, and the usefulness of the expenditures may be of short duration.

Nevertheless, it would seem indisputable that a sound reproduction cost estimate is an essential consideration in a determination of the value of utility plant for rate base purposes, or in expressing the amount of property in terms of dollars. When prepared with fidelity to facts, the estimates can be useful, when necessary, as a test of the reasonableness of rates and earnings, even though many rate adjustments have been made without them. But the estimates should be carefully scrutinized to see that there are no unrealistic theories, assumptions, and methods.³

A DISCUSSION of reproduction cost as the rate base should not be closed without an additional word. The cost of reproducing the service, as distinguished from the current cost of construction of the identical existing property, conforms more closely to unregulated business enterprise, as a factor in price fixing, than any other property base. But this would be

³ The writer, early in his experience in utility regulation, had frequent occasion to analyze reproduction cost estimates. It was not unusual to find that "overheads" were almost equal to labor and material costs. There are "tricks in trades," and reproduction cost estimates have often been no exception. An example is the use of prices based upon the most difficult and costly construction, even though such construction is a small part of the total. Another is the use of hypothetical prices for equipment that is no longer manufactured, and in which the prices reflect custom-made articles.

the most difficult kind of rate base to measure.

Furthermore, it would add to other problems, including estimates of operating expenses, maintenance, and depreciation, for it could not be assumed that these costs would be the same as those in connection with the existing plant. In fact, such estimates would have to be considered in order to determine what constitutes the most economical and efficient plant, because this depends in part upon the periodic costs of operating the plant.

Why the Kind of Rate Base Should Not Alter Rates or Earnings

AT the beginning of this discussion it was said that just and reasonable rates and just and reasonable earnings should not depend upon the kind of rate base adopted. A reproduction cost or fair value base should result in no appreciable difference in rates or earnings than when prudent investment or original cost is accepted.

Nevertheless, most utilities today appear to favor fair value, or even reproduction cost, presumably on the ground that such a rate base will produce a larger amount of allowable earnings. On the other hand, some regulatory agencies favor prudent investment or depreciated original cost, presumably on the ground that such a rate base will lead to lower rates and earnings, although alleged simplicity of method may be advanced as the motivating consideration. For each of these conflicting views to have merit, they should be found in statutes or legislative intent. That is, if a fair value rate base is expected to yield a larger dollar amount of return than original cost, when current costs are high, such should have been

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the expression or clear intent of the legislative body. But even in the absence of clear expression, it might be argued that when a legislature has refused to abandon the fair value rule in favor of original cost, the refusal is based on an assumption that fair value should permit higher earnings when construction costs are high. Such reasoning might be rather tenuous. That legislators would declare that fair value is intended to result in higher charges for services, under present-day conditions, is questionable, if not improbable.

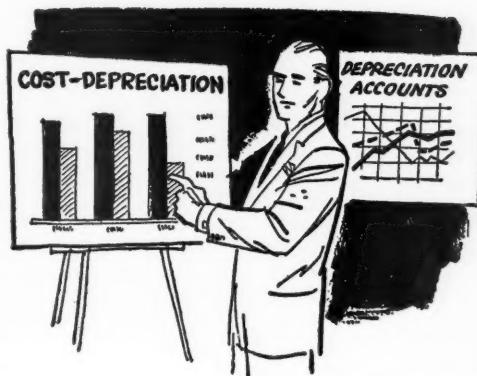
At this point, a suggestion may be in order. In a fair value jurisdiction, the rate-making body might consider the desirability of making findings of original cost less depreciation and reproduction cost less depreciation, to the end that its findings of fair value may be compared with each, and so that the dollar amount of allowed return may be related to each. This could be regarded as a kind of full disclosure on the part of the regulatory agency.

Reasonable charges for service and just compensation involve two factors: the property used and useful in rendering the service, and the return to be allowed thereon, usually expressed as a percentage of the property. Other matters may require attention. But the purpose of a rate inquiry is not primarily the finding of a rate base, be it fair value or something else. Neither is it the finding of some percentage return to be applied to the rate base. Basically, the purpose to be served is a determination of a schedule of rates that is just and reasonable to consumers and that gives a utility just compensation for the use of its prop-

erty. But there must be rational standards for decision, and such standards are found, for man-made facilities, in the property and the return it should yield.

Nevertheless, the use of any particular kind of rate base will not automatically lead to charges that are just and reasonable to both patrons and the utility providing the service. It is but a tool, although an essential one. It is not, however, of precision quality.

THE rate base and the percentage rate of return thereon are inseparable. If fair value is the rate base, the percentage return must be one that relates to fair value, and not to the property as measured in any other way, such as depreciated original cost or reproduction cost new less depreciation. The fair value of property should and can be determined independently of the rate of return, but the percentage rate cannot be determined independently of fair value and how it is arrived at. That is, there is not a certain percentage rate that can be associated with any kind or amount of rate base. It must be based upon the relationship between fair value and other values or costs.



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Hence, when a certain kind of rate base is adopted, it must have a corresponding rate of return. Under such circumstances, the dollar amount of earnings may be substantially the same regardless of the kind of rate base.

There is not overlooked the fact that commissions have been reversed because of failure to comply with statutory requirements concerning the rate base; but the significant point is that compliance with these standards does not necessarily change the rates to be charged or the earnings to be allowed. It may be recognized, however, that a certain kind of rate base, such as fair value, or original cost, may appear to be more or less favorable, depending upon time and circumstances, and a person's philosophy.

THE important aspect of return is the dollar amount, just as the important aspect of rates is what they are in cents and dollars. It would seem apparent, therefore, that if a 6 per cent return is predicated on a fair value rate base of \$12.5 million to yield \$750,000, the same 6 per cent may not be applied to an original cost rate base of \$10 million to yield \$600,000, unless the facts show that the 6 per cent is equally applicable to each base, which would be highly improbable. If the return is fixed, rates and earnings would vary with the rate base.

Moreover, if a fair value rate base is found, a determination of a fair rate of return will require certain considerations; if cost is the property base, the determination of rate of return will entail other considerations, although some will be the same. To the extent that the actual cost of property is an element, it should be accompanied by the actual cost of capital;

to the extent that current cost of property is an element, it should be accompanied by the current cost of raising capital. It does not follow, however, that cost of money is the sole factor to be considered in a determination of a fair rate of return. Other matters are important and relevant, but cannot be reviewed here.

UNFORTUNATELY, the foregoing distinction is sometimes overlooked, or the need for it is not understood. There have been cases in which the rate of return has been measured by current market yields on bonds and preferred stock and current earnings-price (market price) ratios on common stock. The composite of such current yields and ratios has been applied to the actual cost of the property, even though the market yields are based, of course, on the current market prices of securities, rather than on the book amounts of debt and stock, which offset the actual cost of property used as the rate base.

The fallacy of the procedure just described should be obvious. But acceptance of the method is nevertheless a barrier to adoption of the views expressed here. If there were associated with the actual cost of the property the actual or historical cost of money, and if there were associated with the current or reproduction cost of property the current cost of money, there might be little difference in the resulting dollar amounts of earnings. The extent of the difference would depend upon the ratio of the current cost of property to the actual cost, and the ratio of the actual or historical cost of money to the current cost. If these ratios were equal, which is unlikely, there would be

THE RATE BASE *VERSUS* "JUST AND REASONABLE RATES"

no difference in the return. However, if, in connection with this method, the cost of money were not accepted as the sole determinant of a fair return, such return, in dollar amount, could be substantially the same, whatever kind of rate base is employed.

Sometimes, it seems more reasonable, or expedient, to allow 6 or 6½ per cent on a fair value rate base than to allow 8 per cent on the actual cost of property. Yet 6½ per cent, or even 6 per cent, on fair value may be the equivalent of 8 per cent or more on actual cost.

IN conclusion, a decision concerning the reasonableness of rates and earnings, a decision that requires a determination of certain rate schedules and the dollar amount of the return, can be reached in various ways. But the method employed should not change the result materially, provided the method is sound, logical, and reasonable. However, the method frequently does change the result. Hence, the rate base and the rate of return must be properly determined and associated, if just and reasonable rates and earnings are to be accomplished.

Water, Water Everywhere (We Hope)

"THE Office of Saline Water has spearheaded a world-wide scientific search for new, reliable, low-cost conversion processes. Substantial and rewarding progress has been achieved, but much still remains to be done. If we are to develop the necessary technology, the work of the Office of Saline Water should not only be continued, it should be accelerated. Greater emphasis must be placed on basic research for new scientific knowledge and on applied research for new hardware items. The ability to provide adequate water for the 1970's and beyond will be determined by the research and development effort our country is willing to support today. . . . The low-cost conversion processes that are under development may be an attractive lure to induce underdeveloped water-short countries to look to the West for invaluable technological assistance. In the mind and heart of the citizens of the arid areas of the world a supply of sparkling clear sweet water would be a far greater inducement to peaceful coexistence than all of our magnificent ventures to the edge of space. . . .

"... I can assure you that the most important of all our natural resources is not gold, not oil, not uranium, but plain ordinary water. An orderly course for the development of this life-giving liquid must be maintained in order to provide a perpetual supply. The chemical engineer must be in the forefront in guiding and directing the future of that course. We must place ever greater emphasis on scientific and technological research to develop a new source of supply that can provide an ever-growing percentage of tomorrow's water.

"... In the next twenty years this nation alone will have to spend upwards of \$100 billion to meet our Gargantuan demands for water."

—A. L. MILLER,

Former director, Office of Saline Water,
U. S. Department of the Interior.



Will We Ride on Sunbeams?

Exploring new possibilities in the automobile field, the solar or sun-powered automobile as well as the electric automobile, this author thinks there are definite developments in prospect. With smog and other air pollution control features in mind, the noiseless, smokeless possibilities of both of these forms of locomotion continue to challenge the interest of the electric utilities.

By ROBERT M. HYATT*

A FEW months ago the world's first sun-powered automobile glided in smokeless silence through the streets of Los Angeles, causing a sensation and ushering in the Age of Solar Power.

The car was a cumbersome 1912 Baker electric, a real museum piece. It looked exactly as it must have a half-century ago, except for a 4-by-6½-foot panel mounted on its top and composed of some 10,000 silicon solar cells. Energy from the panel charged the car's storage batteries—energy drawn directly from the sun. It

was a successful experiment by the International Rectifier Corporation of El Segundo, California.

Science long ago trapped the sun's energy to operate the solar furnace but it was not until 1954 that the Bell Laboratories invented the silicon solar cell, which instantly converts sun power into watts and volts.

Theoretical output of this photovoltaic panel, based on 10 per cent efficiency of the cells, is 200 watts. Actually, it has produced 115 volts, lighted 100-watt bulbs, operated TV sets, and other electrical devices.

At this time, such panels are expensive.

*Science writer, resident in Hollywood, California.

WILL WE RIDE ON SUNBEAMS?

The one used on the Baker can be manufactured in fairly large quantities at about \$2,000. Wider use and volume production will naturally bring the cost down.

High Cost of Silicon

SILICON, although one of the earth's most abundant elements, was not successfully separated from other elements to become a pure metal until 1951. It was then commercially available at \$450 a pound.

Producing silicon solar cells is still a rather involved and expensive process, which will affect the price of the first sun-powered automobiles. But then first models of all early cars were expensive, some Baker electrics selling for \$5,000, and various gasoline models price-tagged \$15,000.

Who is going to quibble about the initial cost of a sun car when "fuel" for it will be free? First cost will be practically the only cost, since solar cells, unless physically damaged, will last a lifetime because there is nothing to burn up or wear out.

THE sun car of tomorrow will not require an unsightly solar cell panel on its top. Cells may be incorporated invisibly into the body materials. They will collect the sun's energy and in turn charge the car's batteries. This conversion process will go on continuously during the daylight hours, whether the car is parked or traveling the highways — even on cloudy or overcast days. At full charge, the process will automatically shut off.

Are electric automobiles really coming back? The answer is a definite Yes. And, although there is little publicity, upwards

of a score of companies are working on models right now, most of them aimed at the under \$2,500 price. Few working parts, low operating and maintenance costs, and time-proven reliability are the major factors responsible. There is one other very serious reason why there is feverish research in this field; it will be explained later. Naturally, public utility companies are intensely interested, especially electric power companies, many of which are actually backing such ventures.

The Electric Auto and Utility Promotion

AMONG these are the Atlantic City Electric Company, which for more than two years has been sponsoring development of electric cars and making a study of electric trucks in England, where nearly 30,000 of them are in use on go-stop-go delivery routes. In this field, electric trucks have made an enviable record, at a better average speed and far lower operating cost than gas trucks. There is no "idling" with an electric vehicle—it "stops all over when you stop."

Some American firms, well acquainted with the electric's many virtues, have never abandoned their use. One of these is the United Parcel Service, which operates 70 units out of its mid-Manhattan loading depot. The absence of exhaust fumes in the underground loading areas makes the electric particularly desirable.

THE Brunswick Laundry of Jersey City keeps delivery costs at a minimum with 28 electric trucks. Some of them are still going after nearly fifty years of service with the same electric motor, periodically overhauled.

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The Brunswick Laundry has recently acquired several new experimental models for its fleet which were built by the Gould-National Batteries, Inc. Gould has also supplied some of its models to the Blanding Milk Company of Greenville, Michigan, and at least one to Westinghouse Electric of Pittsburgh.

The Cleveland Vehicle Company has more than 50 of its electric delivery trucks operating in Ohio. One user, the Warren Sanitary Dairy Company of Warren, Ohio, reports that its "fuel" costs—battery recharging—run a cent and a half per mile. The U. S. Post Office is testing one of these models for pick-up work.

The Atlantic City Electric, Detroit Edison, and the Electric Storage Battery Company are among the several big firms working on the development of such vehicles.

Other Electric Auto Uses

SEVERAL factors are responsible for the current great interest in electric power transportation, and part of this interest may be laid to the widespread use of electric golf carts. In Long Beach, California, alone there are more than 4,000 of these sturdy little vehicles flitting

about. Designed primarily for golfers with heart and other ailments, the idea has spread to include shopping, going to and from work, and even as a second car.

One night's charging brings these carts' batteries up to full charge. But even this will be eliminated when silicon cells are incorporated in their make-up. Or perhaps fuel cells.

An electric is the ideal economical urban-suburban family second car, better than the average "compact" or European small car. Its 40 miles per hour top speed and 100-mile range on a charge is adequate in today's growing city and urban traffic. The potential customer market is well up in the millions. The second car field is just getting under way, and this is the field most electric car developers are aiming at.

C. RUSSELL FELDMAN, auto radio builder, is importing Renaults from France, removing their internal combustion power plants and installing electric power equipment in a factory in Canastota, New York. The Atlantic City Electric Company has ordered the first two Feldmans, and at least 30 other power companies have put in sizable orders for these converts.

Disregarding initial cost, an electric is a good transportation investment because you can safely compute its annual depreciation based on twenty or more years of vehicle life. Many old electrics are still running after forty years' service. The cheapness of "fuel" offsets any other expenses. Maintenance is almost nil, and tires last much longer because of smoothness of acceleration.



WILL WE RIDE ON SUNBEAMS?

New Promotional Plans

THE Cleveland Vehicle and Electric are planning models to sell in the \$1,600 class, The NuKlean Corporation of Lansing, Michigan, is working on a model to sell for around \$2,500. This job is said to have only eight working parts—and four of them are wheels!

Most of the current projects are planned to use storage batteries and conventional recharging devices. But there is growing activity in the development of cars which will utilize fuel cells and solar cells. The latter type will, of course, be the ultimate attainment. Fuel cells can be charged at home by solar energy and perhaps one day along the highways at solar energy filling stations.

IT is easy to dream of the sun car-to-be. In design it will doubtless be along conventional lines, perhaps a bit more streamlined and with lower center of gravity. There will be no crankcase or transmission—maybe even no differential—hanging below the floor boards. The underhood space now required for the gas engine will become a large storage and luggage space, with a small area for storage batteries. There will be no gears to shift, oil level to check; no hydraulic steering or brakes—they will doubtless be electric. Heating and air conditioning will be easily worked out.

Experts seem to agree that a small, powerful electric motor in each axle, or perhaps in the two front or rear wheels, or even a motor in each wheel, may be the thing.

A radical spring suspension may be in the offing, to make the sun car the easiest riding vehicle ever built.

Virtues of the Electric Auto

THE electric motor develops its peak power instantly at the start, whereas the internal combustion engine requires high revolutions, momentum, and gears, to attain its peak power. There are hundreds of working parts in the gas engine, only a few in the electric.

What about speed? People who recall the old electric, some with nostalgia, recall that it was slow—its maximum speed was about 20 miles per hour, and it ran between 50 and 100 miles before its batteries required recharging. Those elegant old cars were purposely designed to run at slow speeds. Yet it was possible to give them great speed. Walter Baker, who built the first practical electric car in 1897, created an electric race car in 1902 that clocked 104 miles per hour at Ormond Beach, Florida. It was said to be capable of 114. Naturally, it is easier today to produce a car capable of great speed than it was a half-century ago.

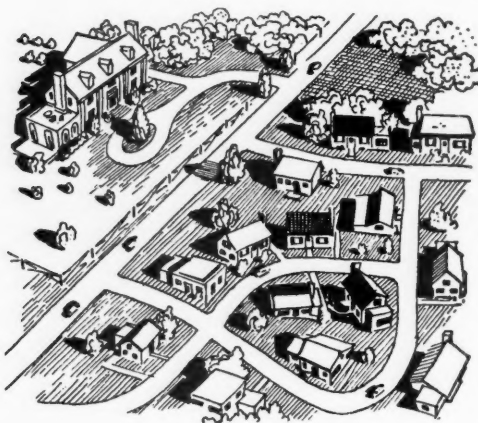
The electric was the ultimate in simple, rugged construction, the last word in ease of driving and maintenance. It was comfortable, clean, and classy. Then why did it die out after a fairly short life?

The Price Hurdle

THE answer in one word is price. The cheapest Baker electric was \$1,200. Some luxury models carried a fantastic price tag. By 1899, three electric makers had produced just under 2,000 cars, the single steam car company had built 1,681 vehicles, while the more than a score of gas car makers had turned out only about 900 units. Electrics led the field.

Then Henry Ford dropped a bomb in the industry by introducing the first Mod-

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el T at a price of \$700. That was the beginning of the end for high-priced cars, regardless of their power source. Cleveland, then the auto capital, soon bowed out to Detroit. Ford held the lead for many years.

In 1912 another calamity overtook the waning electric car manufacturers. The self-starter was announced, and all gas cars lost the irksome chore of cranking.

WORLD WAR I struck another blow. Electric makers began building trucks, with emphasis on carriers for bombs and other military uses. When the war ended, the electric companies concentrated on industrial electric trucks. The quiet, sedate old electric family car faded out of the picture.

There was a spurt of electric battery-driven trucks for ordnance and munitions work through World War II, and the Korean War gave further impetus to this field, and electric fork trucks forged ahead.

The silicon solar cell again opens the door to a new era in pleasure car motor-

ing. It is not necessarily a matter of preference that the electric car will come back. It will *have* to come back, for a very definite reason: The world's supply of fossil fuels is rapidly being exhausted. It cannot be replaced.

Our Irreplaceable Fuel Resources

ACCORDING to prominent geologists, the total recoverable coal, natural gas, oil, oil shale, and tar sands of this planet are now estimated at 27 billion billion Btu's of energy. That is about seven times the energy consumption from 1850 to 1950. *But it is only one-eighteenth of the anticipated energy demand from 1950 to 2050!*

Competent experts warn that gasoline will become unavailable within the life span of people now living. What will happen then to transportation? Will the world become immobilized? Go back to horses? Hardly.

There are just two alternatives. One is the use of nuclear energy. The other is the use of solar energy.

Energy from the atom offers little hope

WILL WE RIDE ON SUNBEAMS?

as a source of power for land vehicles. It calls for too much weight and bulk. Nuclear fusion, the power of the hydrogen bomb, cannot be released except in one awesome blast. It is otherwise uncontrollable.

Nuclear fission, such as triggered the Hiroshima bomb, has been harnessed, but the ingredients—uranium and thorium—are costly and require massive shielding. Moreover, dangerous radioactive wastes are left in its wake.

THAT leaves the sun car, not only immediately possible but posing no insurmountable engineering problems. Any automobile plant could tool up and convert to electric car manufacture quickly and with far from ruinous expense.

Here is why the sun-powered car and truck will be the salvation of future transportation, and even industry itself. Every square meter of perpendicularly sunlit earth is a potential source of 1.4 kilowatts. Every hour the earth's atmosphere receives .6Q of energy from the sun. (Q is the energy equivalent of a billion billion Btu's or to 38 billion tons of bituminous coal.)

Every forty-five minutes the sun furnishes us with as much energy as in our total remaining usable reserves of coal, oil, gas, and oil shale. Every forty days we receive enough solar energy to meet our estimated needs for the next hundred years. Enough energy pours down on 100 square miles of Arizona desert in one day to operate all the industries in the U. S. around the clock.

The Sun Power Dream

DO you see why the sun must power the wheels of tomorrow?

Sun power is not new. Back in 1876, Adams and Day built a selenium cell which converted sunlight into usable energy with more than 0.5 per cent efficiency.

Today's successor is the silicon cell which has literally soared to enormous heights as an adjunct to earth satellites. These silicon cells have converted solar energy as a secondary power source for the telemetering of scientific data.

The silicon photovoltaic solar energy converter operates by converting photons of light energy from the sun into a flow of electrons—electric current. Conversion efficiency of 10 per cent is standard, but 14 per cent has been reached and 25 per cent is attainable. Actually, "efficiency" is not all-important in solar energy devices. A 10 per cent efficient gasoline engine would waste nine-tenths of its fuel. But a 10 per cent efficient solar cell wastes only sunlight. Each day, 1,000 trillion kilowatts of solar energy are wasted. But there is lots more where that came from.

THE use of solar energy is already commercially feasible for ordinary power uses. A solid-state photovoltaic solar panel with cells of 4 to 5 per cent efficiency can be mass-produced in quantities to deliver power under optimum conditions at about \$25 to \$50 per watt.

So what if the first sun car costs as much as two Cadillacs? Early model radios sold for \$400 and even \$500. Today, far better receivers can be bought for \$30.

All new things follow a pattern—expensive at first, with the price going down as more units are sold.

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A Clearer, Cleaner Atmosphere

WHAT about cities cursed with smog, such as Los Angeles? Wouldn't everyone welcome clear skies and clean, pure air once again? To combat the ever-growing smog menace, Los Angeles officials are considering the installation of more electric trolley buses. They are demanding that all motorcars be fitted with oil breather pipe fume consumers—which actually do not do a lot of good. What about the smoky diesel—the thousands

of trucks and buses using this power?

The only answer to smog-ridden cities is atomic-powered factories and electric cars, trucks, and buses.

Thomas Edison bought a Baker electric and enjoyed driving it. After he had invented a better storage battery and analyzed the trouble-free electric car as against the erratic, noisy, and smelly gas car, he predicted that the gas buggy would one day vanish.

His prophecy may yet come true.

What Would Hanford Really Cost?

"A DEFENSE program requires enormous federal expenditures. Under prevailing conditions, scientists and engineers must always have in development new weapons and mechanisms that make existing models obsolete. It has become a truism that an airplane, rocket, or other projectile may be outmoded before it comes off the production line. The public is aware of the cost of such progress. The taxpayer does not object to whatever expenditures that are necessary for national safety. He has never failed to respond. . . .

"Take the proposed Hanford electric generating facilities, for instance. The provision—wisely rejected by the House—to invest \$95 million in generating facilities has been reinstated in the Atomic Energy Commission authorization bill by the Senate. I am confident that my colleagues will again refuse to permit appropriations for this monstrous extravagance, but meanwhile the administration, under the pressure of the revitalized defense program, should voluntarily withdraw its announced desire to go ahead with the Hanford power station.

"Now, under the popular philosophy of reckless government spending without regard to indebtedness or responsibilities, \$95 million is not considered a large sum by big bureaucrats. Let me tell you how a \$95 million burden would affect the people who pay the taxes. If every man, woman, and child in the seven largest communities in the congressional district which I represent were to pay \$1,000 each to the federal government, the total amount would still not be enough to cover the initial cost of the Hanford electric generating project. I emphasize the word initial because you know and I know that this \$95 million would shoot up over the 100 million mark very quickly after the project got started, and before you knew it you would be sending many more millions of good money after the bad used in the kick-off ceremonies."

—JOHN P. SAYLOR,
U. S. Representative from
Pennsylvania.

Washington and the Utilities

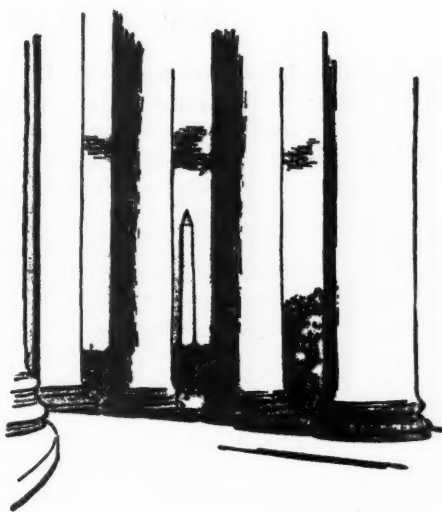
House Again Defeats Hanford Project

THE ultimate fate of the \$95 million electric generating plant at Hanford, Washington, seemed finally resolved by the Congress this month as the House held firm to its previous voting down of the measure and killed the Hanford proposal in a special 235-164 vote.

However, House conferees, when they go to the joint conference to settle differences in the Senate and House versions of the bill, are not bound by the House vote, and since two out of three of the House delegation favor the Hanford item, the issue may be returned, probably next year, to the House for a third vote.

The Hanford measure, to build a 700,000-kilowatt plant using by-product steam from the plutonium-producing reactor now under construction at Hanford, was part of the overall \$400 million AEC authorization bill submitted by the administration.

Last month the House had defeated, by a 178-140 vote, the Hanford section of the bill. Most of the opposition came from conservative Democrats, a majority of Republicans, and Representatives from



coal-producing areas. During hearings on the bill, opposition to the entry of the federal government into the generating and transmission of electric power in the Pacific Northwest had come from numerous investor-owned utilities and organizations which make up the private power "lobby."

IN the end, the passage or defeat of the Hanford measure had come down to a battle of government ownership *versus* investor-owned power.

Following the House's defeat of the Hanford proposal, the Senate passed the AEC authorization bill and restored the Hanford measure. Senate Democrats had felt they could muster sufficient power to get the House to compromise and leave the Hanford proposal in the bill when the two chambers sat down in conference to talk over their differences.

This theory hit a snag when House Minority Leader Halleck (Republican, Indiana) blocked the convening of the joint conference by objecting to the manner in which the bill was to be sent to conference. He said that since it was the Senate which had materially changed the

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legislation after it had been passed by the House (without the Hanford project authorization), it should be up to the Senate, and not the House, to make the first move in calling for a conference to work out a compromise.

Halleck said that the Senate should have requested the conference so that, under parliamentary procedure, the House could have been the first to act on the new version of the bill which came out of conference. If it had been the other way around, he explained, the House would have been the last to act on the new version and it would have been unable to make changes. Thus, it would have been faced with either voting for, or against, the entire AEC bill without the opportunity to again debate the Hanford issue.

THE House Rules Committee was then asked to decide whether the conference issue would go before the House. However, before it was able to hand down a decision, the House resolved the difficulty and killed the Hanford measure by the special vote. The special House vote was regarded, especially by opponents of the Hanford issue, as the only practical solution to the tie-up. This second House action is that chamber's decisive stand on the matter. And the fate of the AEC appropriations bill in the Senate will have to be determined accordingly, the House says.

The House had been virtually certain that if the bill had gone to a joint conference, its conferees would accept the Hanford project and reinsert it in the AEC bill. The House did not want to be placed in the position of voting down the whole AEC bill, and so it went ahead with the special vote.

The vote showed 154 Republicans and eighty-one Democrats opposed to the project, while 155 Democrats and nine

Republicans favored it. The vote, which apparently killed the Hanford plant project for this year at least, came on an unusual motion instructing House conferees that the \$95 million Hanford issue be left out of the final version of the bill.

However, if the conferees overturn the House recommendations, and decide to restore the Hanford measure to the bill, there seems to be a fair chance, according to some Washington observers, that a third vote, if it comes to that, may be much closer than the last 235-164 vote.

OPPONENTS argue it would be unwarranted production of public power where it is not needed. Backers for freedom for investor-owned companies fought the Hanford proposal on the grounds that it was probably the biggest step, since the establishment of the TVA, of putting the federal government in control of a large deposit of electric power. The problem had been intensified by rumors which told of the possibility of linking the TVA and the Bonneville Power Administration in Washington. (The administration had said the Hanford electric power would be fed into the Bonneville network.) Though the administration denied this TVA-Bonneville intertie, there still remained the controversial intertie of power from Bonneville in the Pacific Northwest to such "power dry" states to the south, such as California. This raised a further hassle between California interests and those in the Pacific Northwest who do not like to see their power being shipped out of the region.

Opponents of the Hanford measure, led by Representative Hosmer (Republican, California), a member of the Joint Committee on Atomic Energy, had also questioned the assumptions underlying the conclusion that the plant would be economically feasible. Hosmer also questioned the technological benefits that

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would result from the reactor. One of the prime backers of the Hanford measure in the House, Representative Holifield (Democrat, California), attacked investor-owned power companies for their opposition to the plans for installing the electric power-generating facilities at Hanford. He bluntly warned the private electric utilities that their opposition might result in loss of some of their tax privileges and other government benefits. These would include the revocation of accelerated tax depreciation measures and deferred tax payments on these amounts, which, he said, are the equivalent of an interest-free loan.

OPPONENTS of the plan noted, however, that such tax advantages were made available by act of Congress, over the opposition of the government ownership group in the first place, and could only be revoked in the same way.

It was the second time in less than a week that investor-owned utilities had been threatened with congressional retaliation for their opposition to the Hanford project. The first occurred when Senator Anderson (Democrat, New Mexico), also a member of the Joint Committee on Atomic Energy, suggested that a partnership system providing federal assistance to private concerns in developing nuclear power-generating facilities might be re-evaluated. He said no further federal aid should be provided until the study is completed. Government subsidies and research were some of the benefits Holifield mentioned might be cut off if private power continued its opposition to the Hanford measure.

"You would think the private electric utilities," he said, "would be grateful for the federal program of atomic electric development which, in effect, will hand them a basically new energy source on a silver platter. But they are not grateful,

they are only grasping and greedy." He termed the opposition to the Hanford project "a real demonstration of greed and irresponsibility on the part of this monopolistic segment of our society."

Holifield noted that private power concerns were offered the opportunity to use by-product steam from the Hanford reactor to generate electric power, but rejected the offer. Now, he added, these companies do not want to let the government do the job either.

THE Senate, in its version of the bill, had added a \$5 million authorization for a coal research laboratory at Morgantown, West Virginia. This was understood to be a concession to coal state members, who joined the Republicans and many southern Democrats in the first House vote to kill the Hanford project. The coal representatives had said the atomic steam plant on the West coast would take markets away from the mines.

However, since the two versions of the bill never went to conference, the Senate did not have the opportunity to bargain with those representatives from the coal-producing areas.

Some Representatives and Senators from coal regions now fear they might have painted themselves into a political corner by helping to kill the Hanford project. The feeling is that the House action angered Northwest liberals, who, in the past, provided key support when the coal bloc was shopping for votes on its bills. Loss of these votes could be costly to future coal area programs.

The majority of Democratic Representatives from the coal belts teamed up with House Republicans to vote down the Hanford project in the House. Those expressing fears pointed out that, in the past, they have put over their bills with an assist from liberals in Rocky Mountain northwestern, and New England states.

House Passes Water Compact

THE House beat down Republican opposition and passed a bill authorizing a New England water resources compact (HR 30) and sent it on to the Senate for approval. No strong opposition to the measure is foreseen in the upper chamber.

The bill would establish a special six-state commission to plan development of water and land resources in the area. Participating as voting members of the commission would be several federal agencies concerned with resource development. GOP objections to the plan centered on the fear that the federal agencies, with their one-vote majority, would interfere with states' rights, and that this allowing of federal members of commissions to have a vote might set a dangerous precedent.

The bill, as passed by the House, was amended to strike out an original authorization to provide \$50,000 in federal funds annually for operation of the commission. House Democratic members said that the funds were struck out in an attempt to placate Republican opponents, with the hope that they would be restored by the Senate.

President Asks for Delaware Pact Changes

PRESIDENT Kennedy has given administration approval for federal participation in the Delaware River Basin Compact. Interior Secretary Udall has been instructed to accept with two changes the House-approved bill, authored by Representative Walter (Democrat, Pennsylvania), under which a five-member commission would be created to develop the water resources of the Delaware river basin.

The federal government and Pennsylvania, New Jersey, New York, and Delaware will participate in the compact. The governors of these states are being asked by the federal government to review the proposed changes to the Walter Bill. If they agree to the amendments, the measure will probably be approved before adjournment of Congress this year.

Hearings have already opened before the Senate Public Works Committee and prompt action on reporting it out of committee is hoped for. However, the administration has indicated two of the changes it would desire included in the legislation. One would be a guaranty that the federal government would have veto power over actions of the four other members of the commission appointed by the states; and, secondly, that co-operatives, public bodies, and federal agencies would have a priority over distribution of the power developed on the river.

The administration's request for this "preference clause" may result in delay of the measure. The House had not included it because, as the bill's sponsor, Representative Walter, contended, the legislation only sets up the compact and does not authorize any specific construction.

IF the Senate version of the bill contains the administration's preference clause, then the bill will have to go to a joint Senate-House conference in an attempt to iron out the differences. What is expected to happen is the same which broke out over the Hanford nuclear plant proposal (see item above); that is, the affair will become one of public *versus* private power, with the Senate favoring the former and the House, as in the Hanford battle, the latter.

Telephone and Telegraph



Western Union to Offer Private Wire Services

WESTERN UNION TELEGRAPH COMPANY has announced plans for a private wire service which would be in competition with a similar service now being offered by the American Telephone and Telegraph Company. This would be Western Union's first entry into the field of voice communications. The services that are expected to be offered include wide area telephone service—WATS (providing subscribers with lower package rates for heavy users of long-distance service, based on zones), developmental wide area data service (a teletypewriter service using central offices to set up connections between teletypewriters, providing, in effect, a teletypewriter counterpart to WATS), and Telpak (a package communications service in which multiple channels of telephone service quality are offered to customers for any use they desire, ranging from long-distance phone calls to the transmission of printed data).

Western Union has indicated that it has reached agreement with AT&T and will "negotiate modifications of existing contracts for the leasing of circuits which would enable the company to use facilities leased from Bell system companies."

The purpose of this new service, according to company officials, is to broaden the range of services that can be offered to the public.

For some years Western Union has leased Bell circuits to provide telegraph services and AT&T spokesmen have recently indicated that "communications developments, particularly in the data transmission field, have made it seem desirable to Western Union to offer additional services."

FCC Seeks TV Legislation

CHAIRMAN Minow of the Federal Communications Commission has said that his commission is considering legislation to regulate television and radio networks.

This statement was contained in a letter from Minow, and adopted by all FCC commissioners, to Senator Pastore (Democrat, Rhode Island). The letter was a reply to Senator Pastore's request for a progress report on the commission's effort to improve program content and eliminate licensing abuses. Senator Pastore heads the Senate Communications Subcommittee.

The commission's reply indicated that among the steps being taken, or recom-

mendations being considered, are: (1) a request for statutory authority to regulate networks, but without licensing them; (2) an appeal to the broadcasting industry to police itself and screen out excessive crime and violence in programming; and (3) giving networks more control over independently produced programs to insure better quality shows.

IN summary, Chairman Minow stated as follows:

... we should like to emphasize that the commission is cognizant of, and has under consideration in its program inquiry, the various problems which were raised in your letter. That inquiry was specifically directed to several of these problems and is designed to assist the commission in determining the regulatory measures necessary to cope with these and other problems in television broadcasting . . . the commission has determined, on the basis of information thus far obtained, the need for authority to devise and promulgate rules and regulations with regard to networks. The proposed amendments to the Communications Act . . . would, we believe, if enacted, greatly facilitate a solution of the various problems arising in the area of network-affiliate relations. . . .

In an earlier speech at Northwestern University, Chairman Minow stated that the FCC does not plan to "censor" TV or radio broadcasts. However, he indicated that the commission not only has legal authority but a duty to consider radio and television programming in granting broadcast licenses. He presented a 75-page memorandum to his audience of lawyers and broadcasting experts spelling out the legal background for his position.

AUGUST 31, 1961

Justice Department Looks into AT&T Operations

THE Justice Department has indicated that the administration is considering antitrust action to force the American Telephone and Telegraph Company to get rid of its overseas operations. This statement has been made by Assistant Attorney General Lee Loevinger, who is in charge of the antitrust division of the Justice Department, when he testified before the Senate Small Business Subcommittee on Monopoly. He stated that Justice considers AT&T more monopolistic than Western Union Telegraph Company at the time it was required to divest itself of its overseas operations.

Western Union was ordered by a 1943 law to abandon overseas operations as a condition for merger with Postal Telegraph. Western Union has never been able to find a buyer for its overseas operations which would be satisfactory to the Federal Communications Commission.

Following the hearing, Mr. Loevinger indicated to a group of reporters that the reference to department "consideration" did not imply that action is impending but merely that the activities of the company are under scrutiny.

The hearings at which these disclosures were made were being conducted by Senator Long (Democrat, Louisiana) and were chiefly concerned with the developing of a space satellite communications industry. In this connection AT&T officials told the subcommittee that it is anticipated that a communications satellite system will be in commercial operation by 1965.

REGARDING the possible antitrust action by the Justice Department, AT&T spokesmen have stated that they are in complete compliance with the antitrust laws. AT&T further pointed out that the

TELEPHONE AND TELEGRAPH

Bell system has led in building overseas voice communications facilities in co-operation with the communications agencies and companies of other countries and that these overseas facilities are owned jointly with the foreign countries or agencies involved. Emphasizing the strides in overseas communications, company officials stated:

In 1927, when the first radiotelephone circuit was opened between the U. S. and Britain, the cost of a telephone call was \$75. Today, the cost of such a call is \$9 on Sundays and at night, and \$12 at other times. The quality of overseas telephone service provided today is vastly superior to that provided earlier, and we have worked constantly to bring it to its present level.

Last year AT&T handled some 3.7 million overseas messages, an increase of 2.7 million over the 1950 figure. After paying agencies and companies in other countries, about \$45 million in revenues was received in 1960 from overseas messages, out of a total revenue of \$7.9 billion.

In a later development Representative Brooks (Democrat, Louisiana), chairman of the House Space Committee, warned that the Justice Department's concern over the "niceties of legal ownership" may give Russia an advantage in the race for space. Chairman Brooks further stated that Russia has "beat us on practically every space achievement so far." He thought "it would be a serious mistake to squabble about the niceties of legal ownership."

At the same House hearings Assistant Attorney General Nicholas deB. Katzenbach testified that the Justice Department was opposed to turning the

communications system over to a "chosen instrument." He said that public interest in what may become a multibillion industry will best be served by enlisting the energies, scientific talents, and resources of a broad spectrum of American companies. Mr. Katzenbach further stated:

Were the United States to rely upon private monopoly, or near monopoly, for global communication by satellite, we would not only forego the proven advantages of our free competitive enterprise, but we would be giving the Soviet Union an element of apparent truth for their continuing world-wide efforts to portray the American economic system as one dominated by monopolies.

Civilian space chief, James E. Webb, was also questioned by the Senate subcommittee about the administration's plan to permit private United States common carriers to own and operate the space communications system.

Senator Long stated that foreigners should not have to negotiate for participation in the system with private U. S. companies and he observed that the Soviet Union might well launch its own satellites into space and throw their use open to all nations.

THIS present great concern regarding the monopoly aspect of the space communications program seems strange to a good many observers in view of the great service which groups such as American Telephone and Telegraph have provided. It is acknowledged that the United States has the best communications system in the world and it is also an accepted fact that charges for telephone services have decreased over the years while the quality of service has quite as consistently risen.



AT&T Counters Monopoly Charge—Pushes Satellite Plans

AMERICAN TELEPHONE AND TELEGRAPH COMPANY's plans to develop a world-wide satellite communications system, to be completed in several years, has not yet gained government approval, though the principle of private ownership has been endorsed by the administration following Vice President Johnson's investigation and report to President Kennedy.

However, this has not checked the political agitation in Washington over the alleged possibility that Bell would enjoy a near monopoly of the new system, and the issue has been made to order for antibusiness Congressmen like Representative Celler and Senators Long and Kefauver. These gentlemen are trying to organize a group to force the administration to reverse its decision and allow equipment manufacturers to share in the satellite venture—or to make it entirely a government project.

The testimony of Assistant Attorney General Lee Loevinger to the effect that the Department of Justice has been considering action to deprive Bell of its *present* overseas communications facilities, probably represented an earlier phase of the department's activities, before Presi-

Financial News and Comment

By OWEN ELY

dent Kennedy made his ruling; but the news was sufficient to put AT&T stock into a temporary tailspin, from which it later recovered.

THE charge of "monopoly" had also been thrown at AT&T by a competitor in the domestic communications field, Western Union. The latter has been attempting to develop new earning power to counter an adverse trend in its regular telegram business by building up a leased wire system and installing other new services. The management charged that AT&T had tried to persuade some of its leased line customers to change over to Bell's new Telpak service. Labor interests affiliated with Western Union also made loud cries of "monopoly" in Washington over the alleged AT&T action.

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Bell apparently had to make substantial concessions to quiet these charges, in view of the unfavorable political climate at Washington, and announced that it would permit Western Union to negotiate leases of Bell system circuits and provide Western Union customers combination services which will include "voice" as well as other types of communications.

MEANWHILE, the Federal Communications Commission has been studying the Bell system's earnings from long-distance lines business, both domestic and overseas. (It has no authority to regulate intrastate business of the Bell subsidiaries.) It was first rumored that the commission would suggest a \$100 million rate cut on domestic toll business (a \$50 million cut was ordered several years ago) but the rumored figure was later revised to \$70 million and no definite order has yet been issued. After a long investigation, the commission ordered some rate changes on private wire rates with a net effect of increasing Bell revenues by less than \$2 million—considerably less than requested.

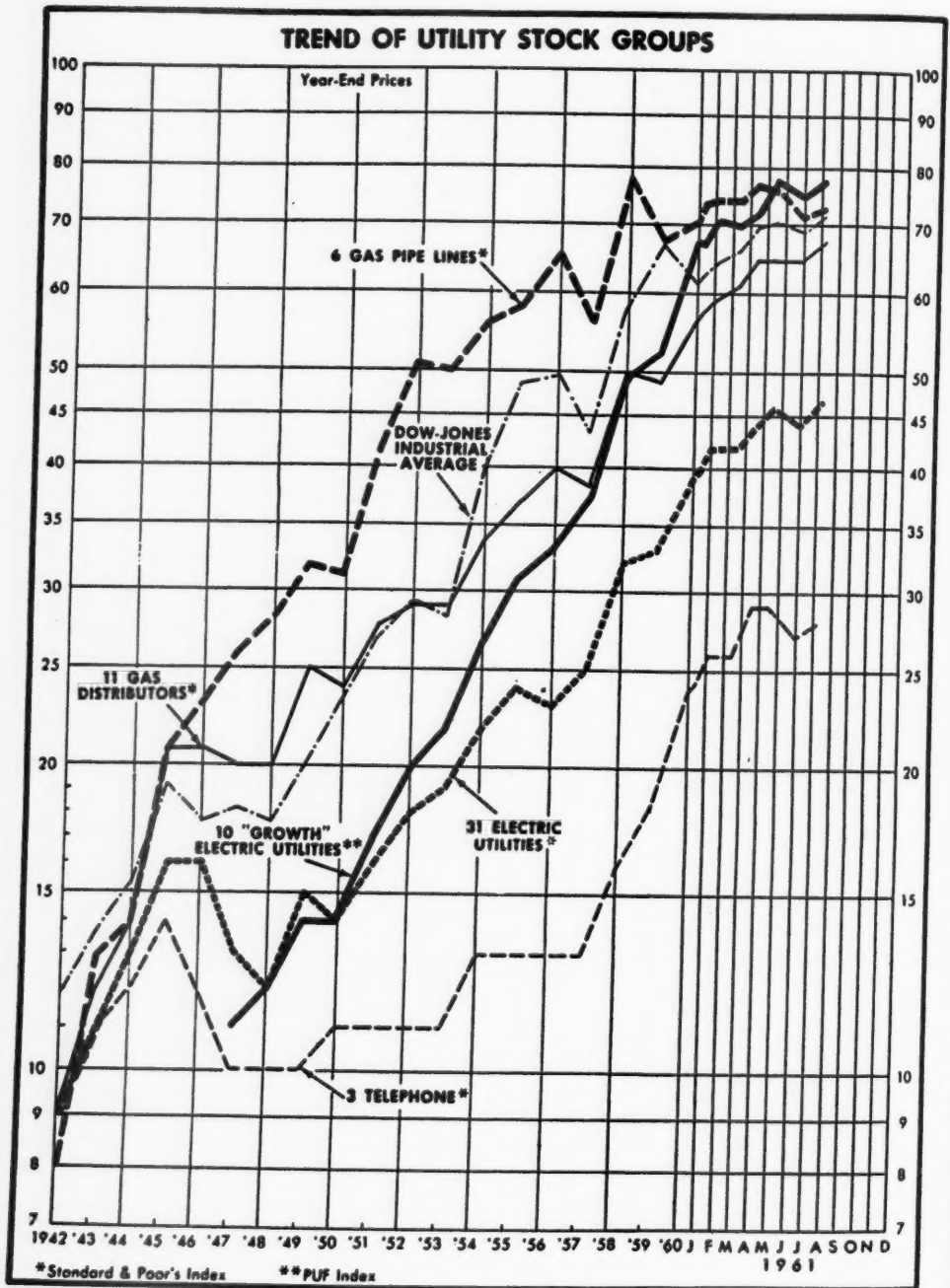
The commission also asked Bell to supply facts and figures regarding its \$45 million overseas business and the rate of profits. Still another development was the commission's warning that Western Electric has been earning too big a profit margin (around 10 per cent) and that it should reduce prices on telephone equipment sold to Bell subsidiaries. Western Electric countered with a reduction in prices approximating \$26 million in revenues following a \$7 million cut earlier this year; prices now average the lowest in ten years and are 10 per cent lower than in 1950. Of course any cuts made by Western Electric would be temporarily recovered in the form of larger net earnings by Bell's telephone sub-

sidiaries, but this might lead to possible telephone rate cuts in some areas.

GETTING back to the matter of the satellite system, Chairman Minow of the FCC was quoted recently to the effect that 80-90 per cent of overseas circuit channels are controlled by AT&T, which suggests that the *volume* of communications messages handled by the Bell system, by cable and radiotelephone, would be about the same. This high percentage is construed in Congress and elsewhere to mean that AT&T will have a corresponding 85 per cent interest and control of the new satellite system when it is completed. But this is hardly a fair statistical picture of the present communications setup. Bell does not own all its facilities outright but shares them with agencies of foreign countries and in some cases with other private companies, such as International Telephone & Telegraph Corporation. It has agreements with some 160 such agencies throughout the world. The agreements for joint administration and maintenance work smoothly and even Castro has remitted the amounts due under the Cuban contract.

Moreover, the cable facilities of Western Union (including the leased wires of Anglo-American) and American Cable & Radio are used much more intensively than the telephone cables—some 20 wire messages can be sent simultaneously over one wire while the telephone cable cannot be used for more than one conversation at a time. Thus, on the basis of total domestic and foreign *revenues* for all kinds of overseas communications, American Tel.'s \$45 million probably represents less than a quarter of the total amount. While Bell's management functions are important, it does not enjoy a monopoly position, and this fact should be publicized in Washington.

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WHILE monopoly charges are being bandied around, however, real progress has been made toward developing the satellite system. Bell has signed a contract with the National Aeronautics and Space Administration for launching and tracking services for at least two experimental satellites for which service it will pay about \$6 million apiece. The first AT&T satellite is scheduled to be sent up from Cape Canaveral next April and the second in October. In addition, however, NASA will also launch a "Relay" satellite (built by RCA) in June and "Relay II" in September. NASA itself has completed negotiations with Britain and France for ground stations in those countries, while similar agreements are being considered by Canada, West Germany, Italy, Brazil, Argentina, and Japan. AT&T is pushing the construction of its big station at Rumford, Maine, which will be used for experiments in satellite communications, and International Tel. & Tel. is also building a station at Nutley, New Jersey.

However, AT&T's original plans for a complete satellite system still seem to be in some jeopardy. A Washington dispatch, dated August 11th, indicated that NASA has contracted with Hughes Air-

craft for three 50-pound satellites, one of which will be launched late in 1962 into a 22,300-mile orbit. This satellite would be a high altitude, "stationary" type as contrasted with Bell's proposed low-altitude, orbiting satellites. Only three would theoretically be required for world-wide coverage as compared with Bell's 50. However, the Hughes satellite would operate on a far narrower frequency band and could handle only voice and telegraph transmissions, not TV broadcasts. One of the objections to a high altitude system is that it poses some problems in telephone service because of the greater lag in the timing of two-way conversations due to the much longer distances involved.

IN addition to the satellites which NASA will send up, the Pentagon is planning projects "Advent" and "Westford." The latter, instead of using a satellite, will create a 2,000-mile-high belt of small needles—hair-like wires less than an inch long, orbiting around the earth. The 350 million needles (which together would weigh only 75 pounds) would form a belt around the earth five miles wide and 24 miles thick, it is estimated, being distributed by a Midas

CURRENT YIELD YARDSTICKS
(Standard & Poor's Indexes)

	Aug. 9, 1961	1961 Range		1960 Range	
		High	Low	High	Low
Utility Bonds—AAA	4.52%	4.52%	4.33%	4.72%	4.32%
—AA	4.60	4.62	4.38	4.73	4.36
—A	4.63	4.67	4.56	4.86	4.49
—BBB	4.84	4.85	4.48	5.16	4.56
Preferred Stocks*	4.68	4.78	4.61	4.88	4.57
Utility Common Stocks	3.17	3.62	3.17	4.11	3.61
Yield Spread: AAA Bonds					
Exceeded Common Stocks	1.35	0.90	1.16	0.61	0.71

*Twelve industrial and two utility issues (high-grade).

PUBLIC UTILITIES FORTNIGHTLY

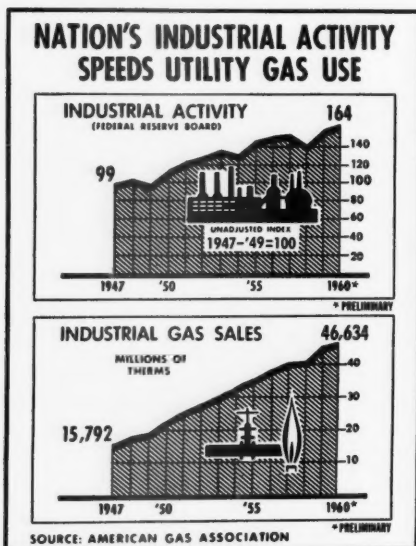
early-warning satellite. President Kennedy has reassured worried astronomers that the needles will not interfere with their view of the heavens. They are expected to act as miniature dipole antennas for reflecting microwave radio signals of about 8,000 megacycles between various points on earth.

Chairman Minow was quoted in the August 11th report as reassuring the Senate Small Business Subcommittee that his agency would reject any industrial plan which would give a dominating position in the communications network to the Bell system, and he also kept the door open for government ownership. However, he held that international common carriers were most experienced and best qualified to bring a satellite system into operation at the earliest possible time, and also stated that private ownership was in accord with usual government policy.

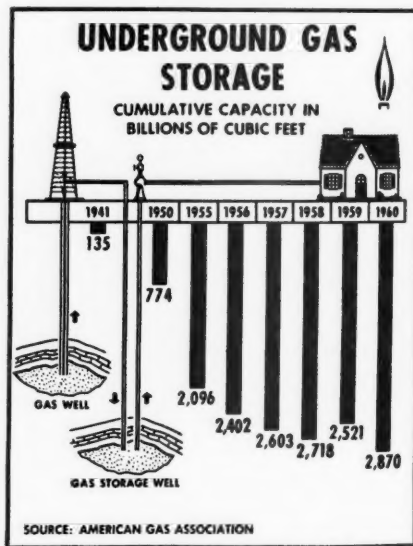
Expropriation of British Columbia Electric Depresses Canadian Utility Stocks

WHILE there has been some apprehension over the possible extension of government ownership activities in the United States, this may have been alleviated somewhat by the recent House rejection of the Hanford atomic power proposal.

But in Canada the situation is worse—public power has made a big step forward. The Honorable W. A. C. Bennett, Premier and Treasurer of the Province of British Columbia, has persuaded the legislature to pass an act which expropriates British Columbia Electric, the principal subsidiary of British Columbia Power, the major utility system in that province with assets of over \$700 million. Technically, the parent company itself could not be expropriated since it was



The gas utility industry's sales to industrial customers climbed 2.2 percent to an all-time high of 46,634 million therms in 1960. Industrial sales have nearly tripled since 1947, while the nation's industrial activity has increased by only 64 percent.



Increasing numbers of househeating customers are being served as a result of development of underground natural gas storage reservoirs. Piped in during low demand periods, stored gas will help provide heat for millions of homes this winter. The gas industry's underground storage capacity has increased more than four-fold since 1950.

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incorporated on a Dominion basis, while the subsidiary is a provincial company and therefore vulnerable.

EARLY reports were that the province would offer holders of British Columbia Power \$38 a share, in order to obtain their voluntary acceptance and to make the expropriation seem more palatable. Several years ago when the stock was considered a growth utility, it sold up to 55½, and even in 1961 it has been as high as 39½, about the same as last year's high. But under the blight of expropriation it has declined to a current U. S. price (August 15th) of 32¾. This indicates definite skepticism regarding the promised \$38 a share. The reason for this is

that the government of British Columbia has paid British Columbia Power about \$111 million for all the shares of British Columbia Electric and the amount had been placed temporarily in short-term investments, the nature of which is not described. This amount is equivalent to only about \$23.50 per share of B. C. Power; and the remaining assets of B. C. Power have been estimated to be worth only about \$1 per share.

It is true that, if the offer is accepted by the company, the remaining balance of some \$69 million (required to make up \$38 a share) will carry interest at 5 per cent from August 1st "until the date of payment or July 31, 1963, whichever is earlier."



TALKS ON UTILITY COMPANIES AT FORUMS OF NEW YORK SOCIETY OF SECURITY ANALYSTS, SEPTEMBER 1, 1960, TO AUGUST 23, 1961

<i>Date</i>	<i>Company</i>	<i>Speaker</i>
9/13/60	Suburban Propane Gas Corp.	Mark Anton, President
9/14/60	Kansas Gas & Electric	Gordon W. Evans, President
9/21/60	Northern Illinois Gas	Marvin Chandler, President
10/ 5/60	Iowa Southern Utilities	H. L. Mann, President
10/26/60	Public Service of New Mexico	D. W. Reaves, President
11/ 2/60	Puget Sound Power & Light	J. H. Clawson, President
11/ 9/60	Baltimore Gas & Electric	J. T. Wolfe, President
11/16/60	Texas Gas Transmission	W. M. Elmer, President
12/ 7/60	Arizona Public Service	Walter T. Lucking, President
12/14/60	Pacific Power & Light	Paul B. McKee, President
12/21/60	Federal Power Commission	Jerome K. Kuykendall, Chairman
1/ 4/61	Edison Electric Institute	S. R. Knapp, President
1/11/61	American Natural Gas	Ralph T. McElvenny, President
1/18/61	General Public Utilities	A. F. Tegan, President
1/25/61	Southern California Water Service	Phillip F. Walsh, President
2/ 1/61	El Paso Natural Gas	Paul Kayser, Chairman
2/ 8/61	Allegheny Power System	J. Lee Rice, Jr., President
2/15/61	Electrical World	Charles F. Hochgesang, Editor
3/ 1/61	Toledo Edison	John K. Davis, President
3/15/61	Wisconsin Public Service	Harold P. Taylor, President
3/22/61	Pacific Lighting	Robert A. Hornby, President
3/29/61	Kansas Power & Light	B. S. Jeffrey, President
4/ 5/61	Wisconsin Power & Light	Carl J. Forsberg, President
4/ 4/61	New Sources of Energy	Paul F. Grenachte, Vice President, Chase Manhattan Bank
4/12/61	Dept. of Public Utilities of Mass.	David M. Brackman, Commissioner
4/19/61	Kansas City Power & Light	Robert A. Olson, President
5/ 3/61	Hawaiian Electric	Ralph B. Johnson, President
5/17/61	Trans-Canada Pipe Lines	James W. Kerr, President
5/24/61	Public Service of Indiana	Carroll H. Blanchar, President
6/14/61	American Gas Association	Lester T. Potter, President
6/28/61	American Electric Power	Philip Sporn, President
8/ 9/61	Southwestern Public Service	H. L. Nichols, Chairman
8/23/61	Virginia Electric & Power	Erwin H. Will, Chairman

PUBLIC UTILITIES FORTNIGHTLY

A LETTER from A. Bruce Robertson (a former vice president who became chairman and president following the recent death of Chairman Grauer) sent August 10th to stockholders included the following statements:

Your directors are not satisfied that the compensation offered is adequate and they propose to urge the government to give favorable consideration to an increase. . . . The possibilities of the corporation embarking on new lines of business. . . . are under some consideration. If the proposals are developed, in due course shareholders will be given the opportunity to decide whether they wish to withdraw their interest in the capital or continue with the corporation in its new enterprises.

The apparent uncertainties regarding the future distribution of the remaining \$14.50 per share to holders of B. C. Power tend to explain the continued easiness in the price of the stock. Many stockholders would probably settle for \$38 if they

could obtain the full amount in cash currently.

THE move by Premier Bennett occurred shortly after the death of Chairman Grauer of B. C. Power, who reportedly opposed Bennett's ambitious plans for developing the Peace river project—construction of the remaining big dams on the Upper Columbia river which would generate huge amounts of power available for sale to U. S. utilities. Wenner-Gren, the Swedish capitalist, has also been heavily interested in the development of power and other natural resources in the province. Bennett's sudden action has been ascribed to political disagreements with Premier Diefenbaker at Ottawa over tax allocations as well as power developments.

Bennett's aides are reported to have approached Pacific Gas and Electric already regarding future sale of Canadian power at five mills per kilowatt-hour, although Bonneville interruptible power is selling for two mills.

FINANCIAL DATA ON ELECTRIC UTILITY STOCKS

Approx. Rev. (Mill.)			8/8/61 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% Incr. in Share Earnings	Price- Earnings Ratio	Div. Pay- out	Approx. Book Value	
						Recent	5-yr. Avg.				
\$159	S	Allegheny Power System ..	45	\$1.70	3.8%	\$2.35Je	1%	3%	19.1	72%	\$18
338	S	American Electric Power ..	70	1.88c	2.7	2.44Je	—	5	28.7	77	24
74	O	Arizona Pub. Service	37	.72	1.9	*1.07Ma	* 5	* 8	*34.6	67	19
14	O	Arkansas Mo. Power	26	1.08	4.2	1.45Je	3	5	17.9	74	11
40	S	Atlantic City Elec.	47	1.20	2.6	*1.64Je	*10	* 9	*28.6	73	12
175	S	Baltimore G. & E.	33	1.00	3.0	1.53Je	7	8	21.6	65	13
9	O	Bangor Hydro-Elec.	20	.80	4.0	1.13Je	1	6	17.7	71	30
7	O	Black Hills P. & L.	40	1.60	4.0	2.56Ap	D2	3	15.6	63	21
124	S	Boston Edison	79	3.00	3.8	4.11Je	2	4	19.2	73	52
34	A	Calif. Elec. Power	23	.84	3.7	*1.14Je	* 6	* 3	*20.2	74	12
25	O	Calif. Oreg. Power	56	1.60	2.9	*2.15F	*20	*	*26.0	74	27
11	O	Calif. Pac. Util.	24	.90	3.7	1.20My	D16	1	20.0	75	13
82	S	Carolina P. & L.	53	1.48	2.8	2.24Je	D4	5	23.7	66	21
37	S	Central Hudson G. & E. ..	33	1.00	3.0	*1.49Je	* 4	* 8	*22.1	67	14
27	O	Central Ill. E. & G.	27	.88	3.3	1.28Je	10	7	21.1	73	16
45	S	Cent. Ill. Light	43	1.52	3.5	1.84Je	D28	4	23.4	83	19
63	S	Cent. Illinois P. S.	69	2.12	3.1	3.05Je	4	5	22.3	70	21
22	O	Central Louisiana Elec. ...	34	1.00	2.9	1.37Je	12	7	24.8	73	11
44	O	Cent. Maine Power	33	1.52	4.6	*2.08Je	*11	*	*15.9	73	25
173	S	Cent. & South West	43	1.02	2.4	1.46Je	6	7	29.5	70	9
13	O	Cent. Vermont P. S.	23	1.08	4.7	*1.32Je	*D5	* 2	*17.4	82	14
153	S	Cincinnati G. & E.	42	1.50	3.6	2.23Ma	4	3	18.8	67	16
10	O	Citizens Util. "B"	25	.60	2.4	.83Ma	19	8	30.0	70	6

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Approx. Rev. (Mill.)	(Continued)	8/8/61 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% Incr. in Share Earnings Recent	5-yr. Avg.	Price- Earnings Ratio	Div. Pay- out	Approx. Book Value
136	S Cleve. Elec. Illum.	59	2.00	3.4	2.89Ma	D5	4	20.4	69	25
8	O Colo. Cent. Power	46	.96	2.1	1.37Je	17	10	33.7	70	12
57	S Columbus & S. O. E.	64	2.00	3.1	2.97Je	3	6	21.2	77	25
469	S Commonwealth Edison	90	2.00h	4.6h	3.93Je	4	8	23.2	51	35
17	A Community P. S.	41	1.00	2.4	1.54Je	3	5	26.6	65	13
89	O Conn. Lt. & Power	29	1.20	4.1	*1.47Je	—	* 7	*19.7	81	15
656	S Consol. Edison	77	3.00	3.9	*3.64Je	*D5	* 5	*21.2	82	50
281	S Consumers Power	72	2.60	3.6	3.47Je	D9	2	20.7	75	36
96	S Dayton P. & L.	26	.88	3.3	1.16Ma	10	—	22.4	76	31
55	S Delaware P. & L.	52	1.20	2.3	1.74Je	7	7	29.9	69	14
279	S Detroit Edison	59	2.20	3.7	2.69Je	9	2	21.9	82	28
167	S Duke Power	54	1.60	3.0	2.19Ma	—	7	24.7	73	22
105	S Duquesne Light	28	1.18	4.2	*1.51Je	* 2	* 5	*18.5	78	10
38	O East. Util. Assoc.	43	2.20	5.1	2.57Je	D8	4	16.7	87	26
3	O Edison Sault Elec.	19	.90	4.7	1.12Ma	D11	—	17.0	80	10
19	O El Paso Electric	28	.62	2.2	.86Je	—	8	32.6	72	12
13	S Empire Dist. Elec.	42	1.52	3.6	2.08Je	10	7	20.2	73	17
68	S Florida Power Corp.	47	.88	1.9	1.37Je	12	11	34.3	64	11
173	S Florida P. & L.	73	1.00	1.4	2.05Je	1	15	35.6	49	17
4	O Florida Pub. Util.	27	.72d	2.7	1.32Ma	D1	7	20.5	55	11
205	S General Pub. Util.	32	1.16	3.6	*1.63Ma	—	* 3	*19.6	71	15
7	O Green Mt. Power	17	.80	4.7	.93Je	D2	4	18.1	85	13
86	S Gulf States Util.	40	1.00	2.5	1.28Je	D8	5	31.2	78	13
54	A Hartford Electric	75	3.00	4.0	*3.71Je	* 2	NC	*20.2	81	43
31	O Hawaiian Electric	83	2.50	3.0	3.46Ma	2	5	24.0	72	37
116	S Houston L. & P.	115	1.60	1.4	3.29Je	5	5	34.9	49	24
37	S Idaho Power	36	1.00	2.8	1.43Je	8	6	25.2	70	29
110	S Illinois Power	77	2.20	2.9	3.01Je	4	11	25.6	76	20
56	S Indianapolis P. & L.	60	1.90	3.2	2.74Je	6	7	21.9	69	19
34	S Interstate Power	24	.95	4.0	1.15Je	D3	4	20.9	83	9
53	S Iowa Elec. L. & P.	49	1.80	3.7	2.69Je	3	5	18.2	67	21
51	S Iowa-Illinois G. & E.	45	1.90	4.2	2.60Je	D4	2	17.3	73	20
51	S Iowa P. & L.	45	1.60	3.6	2.18Je	D9	4	20.6	73	20
42	O Iowa Public Service	24	.88	3.7	1.36My	7	5	17.6	65	11
17	O Iowa Southern Util.	36	1.48	4.1	2.04Je	D7	4	17.6	73	21
68	S Kansas City P. & L.	72	2.32	3.2	3.39Je	5	6	21.2	68	31
37	S Kansas G. & E.	64	1.68	2.6	2.90Je	6	8	22.1	58	23
57	S Kansas P. & L.	46	1.48	3.2	2.39Je	D2	7	19.2	62	19
49	O Kentucky Util.	42	1.72	4.1	2.76Je	2	6	15.2	62	22
8	O Lake Superior D. P.	28	1.28	4.6	1.83Ma	7	4	15.3	70	18
145	S Long Island Ltg.	54	1.50	2.8	*2.18Je	* 1	* 8	*24.7	69	20
71	S Louisville G. & E.	59	1.52	2.6	2.67Je	D1	8	22.1	57	22
13	O Madison G. & E.	33	1.00	3.0	2.16Je	6	3	15.3	46	21
5	A Maine Pub. Service (o) ..	20	.95	4.7	1.12Ap	D3	4	17.9	85	14
8	O Michigan G. & E.	92	2.00e	5.5e	5.60Je	3	8	16.4	36	29
215	S Middle South Util.	38	1.06	2.8	1.56Je	14	9	24.4	68	14
35	S Minn. P. & L.	42	1.60	3.8	2.42Je	7	4	17.4	66	21
16	S Missouri P. S.	23	.72f	5.1f	1.02Je	D10	5	22.5	71	8
9	O Missouri Util. (1)	25	1.00	4.0	1.36Je	9	2	18.3	71	19
49	S Montana Power	36	1.12	3.1	*1.49Je	* 8	* 8	*24.2	75	10
9	O Nevada Power	41	.84m	2.0	1.54Je	15	5	26.6	55	15
180	S New England Elec.	25	1.08	4.3	1.33Ma	D1	2	18.8	81	15
55	O New England G. & E.	33	1.24	3.8	1.88Je	11	8	17.6	66	18
110	S N. Y. State E. & G.	37	1.30	3.5	*2.04Je	*13	* 8	*18.1	64	19
299	S Niagara Mohawk Power ..	48	1.80	3.8	*2.32Je	*D1	—	*20.7	78	23
124	O Northern Indiana P. S. ...	41	1.20	2.9	1.80Je	9	4	22.8	67	28
183	S Northern Sts. Power	32	1.18	3.7	1.52Je	4	5	21.1	78	12
13	O Northwestern P. S.	28	1.20	4.3	1.60Je	D9	5	17.5	75	13
160	S Ohio Edison	44	1.48	3.4	2.14Je	2	4	20.6	69	17
62	S Oklahoma G. & E.	42	1.20	2.9	1.54Je	12	5	27.3	78	11
31	S Orange & Rockland Util. .	53	1.20	2.3	*1.78Je	* 9	*11	*29.8	67	14
20	O Otter Tail Power	38	1.80	4.7	2.26Je	D4	1	16.8	80	25
648	S Pacific G. & E.	80	2.80	3.5	*4.30Ma	*13	* 5	*18.6	65	42
63	O Pacific P. & L.	47	1.80	3.8	*2.20My	*16	* 6	*21.4	81	20
142	S Penn. P. & L.	30	1.25	4.1	1.72Je	D3	3	17.4	73	13

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Approx. Rev. (Mill.)	(Continued)	8/8/61 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% Incr. in Share Earnings 5-yr. Recent Avg.	Price- Earnings Ratio	Div. Pay- out	Approx. Book Value
273	S Phila. Electric	33	1.20	3.6	*1.49Je	* 2 * 4	*22.1	80	28
45	O Portland Gen. Elec.	43	1.52	3.5	2.16Je	13 5	19.9	70	19
89	S Potomac Elec. Power	42	1.44	3.4	*1.98Je	* 2 * 6	*21.2	74	20
113	S Pub. Serv. of Colo.	81	2.10n	2.6	*3.53Je	*32 * 5	*22.9	59	26
394	S Pub. Serv. E. & G.	59	2.00	3.4	*3.25Je	*34 * 3	*18.2	62	28
92	S Pub. Serv. of Ind.	63	2.20	3.5	2.65Je	— 2	23.8	83	28
35	O Pub. Serv. of N. H.	24	1.08	4.5	1.42Je	3 2	16.9	76	14
20	O Pub. Serv. of N. M.	54	1.00	1.9	1.55Je	3 11	34.8	65	13
37	S Puget Sound P. & L.	38	1.56	4.1	*1.94Ma	*D8 * 8	*19.4	80	23
76	S Rochester G. & E.	52	1.80b	6.5b	*3.04Je	* 1 * 8	*17.1	59	32
11	S St. Joseph L. & P.	38	1.60	4.2	2.14Je	D6 8	17.8	75	19
81	S San Diego G. & E.	34	1.20	3.5	1.59Je	D16 9	21.4	75	19
12	O Savannah E. & P.	33	1.12	3.4	1.40Ap	14 4	23.6	80	14
14	O Sierra Pacific Pr.	28	.88	3.1	1.13Je	D14 12	24.8	78	9
306	S So. Calif. Edison	73	2.60k	3.6	*4.58Je	* 5 * 7	*15.9	57	44
56	S So. Carolina E. & G.	55	1.50	2.7	2.07Je	4 6	26.6	72	19
297	S Southern Co.	57	1.50	2.6	1.99Je	— 8	28.6	75	17
22	S So. Indiana G. & E.	42	1.70	4.0	2.66Je	3 3	15.8	64	23
4	O Southwestern E. S.	22	.76	3.5	1.04Je	4 5	21.2	73	8
53	S Southwestern P. S.	30	.88	2.9	1.10Je	D3 6	27.3	80	7
41	A Tampa Electric	44	.80	1.8	1.19Je	4 12	37.0	67	11
202	S Texas Util.	105	2.08	2.0	3.18Je	7 9	33.0	65	22
49	S Toledo Edison	24	.70	2.9	1.11Je	1 —	21.6	63	10
20	O Tucson G. E. L. & P.	38	.80	2.1	1.02Je	D18 8	37.3	78	9
159	S Union Electric	48	1.80	3.8	*2.18Je	* 3 * 5	*22.0	83	18
40	O United Illuminating	32	1.40	4.4	*1.69My	*D3 * 2	*18.9	83	16
8	O Upper Peninsula Pr.	36	1.70	4.7	2.31Ma	20 —	15.6	74	20
53	S Utah Power & Light	38	1.32	3.5	1.81Je	D4 4	21.0	73	20
161	S Virginia E. & P.	62	1.30	2.1	*1.93Je	* 7 * 8	*32.1	67	16
40	S Wash. Water Pr.	50	2.00	4.0	*2.52Je	* 7 * 3	*19.8	79	29
87	O West Penn Power	72	3.20	4.4	3.62Je	3 2	19.9	88	26
14	O Western Lt. & Tel.	31	1.20	3.9	1.77Je	6 6	17.5	68	29
34	O Western Mass. Cos.	26	1.20	4.6	*1.57Je	*D4 * 1	*16.6	76	19
141	S Wisc. El. Pr. (Cons.)	47	1.80	3.8	2.74Ma	D4 7	17.2	66	29
48	O Wisconsin P. & L.	39	1.48	3.8	2.33Je	D4 7	16.7	64	21
48	S Wisconsin P. S.	32	1.40	4.4	2.04Je	— 4	15.7	69	18
Averages				3.5%		3% 6%	22.1	71%	
Foreign Companies									
\$127	S American & Foreign Pr. ..	10	\$.50	5.0%	\$1.41Ma	83%	0%	7.1	36%
161	A Brazilian Traction	5	—	—	.98De	70	—	5.1	29
103	A British Col. Power	33	1.60	4.8	2.37De	D5 3	13.9	67	32
26	O Calgary Power	25	.40	1.6	1.09De	14 13	22.9	37	6
19	A Gatineau Power	35	1.60	4.6	2.25De	13 2	15.6	71	22
17	A Quebec Power	35	1.60	4.6	2.53De	8 9	13.8	63	27
83	A Shawinigan Water & Power	25	.80	3.2	1.54De	6 6	16.2	52	19

*Deferred taxes resulting from liberalized depreciation are not normalized. If they had been normalized the price-earnings ratio would be higher, and the rate of increase in share earnings would be smaller. D—Decrease. NC—Not comparable. A—American Stock Exchange. O—Over-the-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. b—Also 3 per cent stock dividend (paid January 25, 1961) included in the yield; similar dividends are paid annually, representing balance of earnings. c—Also 2 1/2 per cent stock dividend January 10, 1961. d—Also 2 per cent stock dividend May 1, 1961. e—Also regular annual 3.3 per cent stock dividend (3 per cent in previous years), included in the yield. f—Also regular stock dividend of one-half per cent quarterly, included in yield (paid since 1956). h—Also 2.4 per cent stock dividend December 1, 1960, included in yield; stock dividends are paid annually, reflecting balance of earnings. j—The rate of increase would be 12 per cent if the present number of shares had been used to compute share earnings of past years, instead of using the number of shares actually outstanding at the end of each year. k—Also 4 per cent stock dividend February 24, 1961. l—Adjusted for 50 per cent stock dividend June 5, 1961. m—Fifty per cent stock dividend payable January 18, 1961—cash dividend on new stock 84 cents. n—Also 5 per cent stock dividend February 17, 1961. o—Adjusted for 13-for-10 stock split record June 27, 1961.



What Others Think

Operation in Depth—A Tool for Management

THERE are many advocates of professional business management who believe that a business can be operated from a single document, the financial statement. This is far from the real facts in the operation of a business. The financial statement is exactly what the description implies—a summary of numbers in the form of dollars. We try to read into these numbers factors which cannot possibly be conveyed by figures. The financial statement is an important document. It is cold, impartial, and callous. It is the record as of the time it was prepared but it is not the whole story of a business enterprise.

Starting with the board of directors of a company, the financial statement reviews the monetary status. From it, awards to stockholders for investing their money in a corporation are determined. This is very elementary and obvious. The other uses of the financial statement are many and varied. If succeeding statements are compared, a trend will frequently be noticed. The volume of the business may increase or decrease and it can be noted that expenses may increase or decrease.

For the board of directors to arrive at all decisions, based on their interpretation of the financial statement only, is not conducive to good management. For in-

stance, to decide that expenses must be cut a certain percentage simply from the financial statement is superficial operation. It may be necessary to reduce expenses but, before doing so, there should be questions by the board of directors. Nor should these questions be directed only to the chairman or president, but also they should reach down to vice presidents and managers under them. This is operation in depth.

IN order to curry favor with the boss, there are many so-called "yes-men" in business today. Frequently, the man who does not say yes is two or three levels of management from the boss. Operation in depth will disclose if "yes men" exist along with other ideas, other approaches, inequities in the measurements applied by management, and many enlightening facts. Operation in depth is **HIGHER LEVELS TALKING TO LOWER LEVELS**. It is important to note that these talks must of necessity be of an exploratory nature and are not intended to disrupt the authority delegated to the various levels of management.

There are concepts of professional business management which believe in the lowest level communicating with the highest level but they stop there. The idea

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of operation in depth provides for top levels to communicate downward. It is far too easy for the top level of management to have an efficient means of screening the mail and diverting much of it into other channels. This may secure a reply or a rebuff for communicating with the "big boss." The "big boss" is always a step or two above one's immediate superior. The screening would have to stop under an operation in depth for the subject could very readily be a part of a two-way communication. Again, it should be emphasized that operation in depth is a diplomatic handling of conversation from top to bottom without destroying lines of authority.

Operation in depth does not mean a lot of correspondence but is intended to mean discussion—frank, open, and businesslike. It is a certainty that if operation in depth were practiced, the antitrust practices of several large corporations would have been known to the highest level of management. This raises the question of whether or not new methods within corporations are the solution to stop such actions, or would more operation in depth be a better means of accomplishing the goal.

It is also doubtful that greater penalties at the bar of justice will accomplish the desired deterrent action.

THE inclusion of some form of operation in depth should be made a part of every manager's job description or position guide or measurement objectives. The operation in depth requirements are not satisfied by a one-way speech plus discussion limited to the subject. It must be more personal and frank and free to range on any subject. In a small company

it could be happening on a very frequent basis.

This would also be true of individual operations of a large corporation, beginning with the plant manager or department manager on down in the local organization. In large, widely scattered organizations, the periods would be less frequent and might be accomplished by small, manageable groups meeting in centralized locations.

WHEN the operation is from a financial statement only, it is so easy to say that the manager should be replaced. This can be repeated a couple of years later and this, in turn, can be demoralizing to the people who are trying to make a success of the business. Operation in depth will aid in finding a way to make more managers successful and to capitalize on the experience gained in the tenure as manager. It should also aid in revealing a poor selection at an earlier date and thus save historical facts proving the point later.

Operation in depth will introduce some humanity into business. A real leader of people will operate in depth and his followers will accomplish much more than the driver who cracks the whip of a financial statement. More can be accomplished by being a team working together than by being an impersonal individual. The team may be small or it may be large, but each member is important and operation in depth can keep the team in spirited action. It is doubtful if the economic performance of such a team could be beaten.

—SAMUEL MARTIN, JR.
Glens Mills, Pennsylvania.

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New York Telephone Association Convention

THE relationship between regulatory agencies and investor-owned utilities, from the point of view of a regulatory agency official, was explained to members of the New York State Telephone Association who assembled at Schroon Lake, New York, in June for their thirty-ninth annual convention.

Delivering the address was New York Public Service Commissioner Ralph A. Lehr, who stressed that utilities, as much as the commissions, must bear the blame for any "regulatory lag" in processing cases, especially those dealing with tariff filings by utility companies.

Lehr said, concerning the New York commission, there was "very little, if any, regulatory lag attributable to the commission or its staff," and that where "considerable regulatory lag does occur, invariably it can be traced directly to the utilities involved."

In 1959-60, he said, 32 member companies of the telephone association filed tariffs requesting rate increases. In nearly every case the commission acted within the statutory period. And of the 16 rate requests in 1959, 13 were allowed in full and three in a somewhat lesser amount than sought, he added. In 1960 there were also 16 filings, and in nearly all the commission acted within the 30-day statutory period and only two companies were allowed less than the full amount requested.

THIS is the case in routine rate filings, Lehr said, but when novel or controversial matters are involved and considerable investigation is required the commission takes ample time to make a "just and fair decision." No regulatory body worth its salt, he explained, would rush into a decision without being certain the public interest was properly protected. He said a company which submits a pro-

posal to the commission, which contains aspects not routine, is inviting delay of a final determination if it elects to give the commission only the statutory 30-day notice of its intention to make such changes.

Commission Thinks of Customers

THOUGH the commission has the purpose of keeping the utility company "in good shape," it is equally concerned with the interests of the company's customers. "Regulation is a two-way street," Lehr stated. Delays may occur, but there are delays which might have been avoided had the companies involved given the commission sufficient advance notice of their intentions to enable full consideration of the matters before any proposed effective date. Lehr said he did not mean to infer that decisions will always be handed down before a tariff effective date even though filings may have been made well in advance. But he explained that every effort will be made by the commission to meet timetables if it is given the proper time to complete investigation and deliberations.

Lehr said there was another area in which most telephone companies were neglecting to complete work which would ultimately accrue to the benefit of themselves and the public they serve. This was the matter of continuing property records (CPR).

For years the commission has urged telephone companies to complete such records as rapidly as possible, he stated. But to date only five of the larger companies in New York state have done so. Those who fail to establish accurate continuing property records may find themselves stymied when they seek rate changes or security authorizations, it was pointed out.

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When a company, whose CPR is in good shape, petitions the commission for a general rate increase or for financing, its chances are far better for expeditious processing of these matters than the company which has either an incomplete continuing property record or no such record at all. This is because without data, disagreement is bound to result in matters relating to rate base, depreciation reserve, and plant balance, he told the group. On the other hand, with a complete CPR, the probability is that little if any adjustment will be required as to the book figures of the company. As a result, Lehr said the commission's examination may be processed without time-consuming delay.

Helps Obtain Capital

A FURTHER advantage to be realized, Lehr explained, by the company which maintained a good CPR, relates to its approach to the lending institutions when it became necessary to acquire additional capital. The going is much easier, he said, if the concern is armed with a continuing property record. The delay in securing the required moneys is kept at a minimum, thereby eliminating considerable strain to the operator and allowing him to get his job done without undue delay.

Both the commission and the companies win when a good CPR is available, he added. The commission is able to act without long delays on matters which are brought before it; and the companies can receive prompt decisions on matters vital to them. The public also wins, because such expedition will enable the companies to provide their subscribers with better service, also gain.

Lehr acknowledged the work of the New York State Telephone Association to achieve an equitable arrangement for those companies providing intercompany foreign exchange service. He said it was

unfortunate that some companies had been reluctant to offer such service in their own territories, since intercompany foreign exchange service was available to all and should be offered to all telephone companies.

"In these very dynamic times," he stated, "the old exchange and company boundaries which were arbitrarily set up many, many years ago do not always reflect the new calling habits of the subscribers who live in close proximity to them." It is, therefore, imperative that telephone companies make arrangements available so that subscribers so affected may be permitted the service of their choice regardless of the location of these boundaries.

Initiation of WATS

ONE of the most significant changes in telecommunications during the past year, he said, was the initiation of wide area telephone service (WATS) by the American Telephone and Telegraph Company, some of its affiliated companies, and others. In New York, he added, each of the independent companies is being invited to make such service available to their subscribers. The New York commission, he told the group, has the matter under consideration and will act in accordance with "what appears to be the best interests" of both the companies and the subscribers they serve.

The danger and threat to telephone companies from private or internal communications systems were discussed by Hamilton A. Cunningham, executive secretary of the New York State Telephone Association.

He said that the telephone industry historically has always had to compete for money, man power, and materials. But the competition from this newly developed communications system is of a far different kind than telephone com-

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"OUR PINK PHONE BLENDS SO WELL WITH THE DECOR I CAN'T FIND IT!"

panies have faced in the past, and the threat it poses will have to be met and overcome if the industry is "going to stay healthy."

CUNNINGHAM pointed out that during the past few years private communications systems have been installed by competitors for a growing number of concerns. Although telephones and company-owned equipment are still needed for outside calls, these internal communications systems mean that only employees having contact with the public use the

telephones. This has resulted in the loss of business, he said, since these private microwave systems are a substitute for service and facilities provided by telephone companies.

He explained there was only one privately owned microwave link in 1950. Ten years later this had grown to more than 1,000 links, covering 35,000 miles. More than 70 manufacturers build private microwave equipment designed to compete with common carrier telephone service. These companies provide fast installation service tailored to the custom-

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er's needs, he pointed out, and they offer a choice of prices and service. These companies can pick up customers both for a few control circuits, or for multi-line communications networks between fixed points.

Free from Tax Burden

CUNNINGHAM told his audience that these microwave equipment companies have "an edge" on telephone companies in three ways. First, they do not bear a discriminatory tax burden. Secondly, being nonregulated, they have greater price freedom. Originally public utilities came under regulation because they did not compete directly with other companies in the sale of their primary product and regulation was supposed to be the law's substitute for competition. "But this view is now out of step with changing times. Competition is all around us," Cunningham said. Thirdly, there is the ability of the smallest producer of "intercommunicating systems" to buy his component parts wherever he chooses, at whatever price he is able to negotiate. He is not precluded in buying from the "biggest and best" manufacturer.

Telephone companies cannot ignore this challenge. The changing nature of communications technology means that the telephone company's franchise can no longer protect it from the inroads of competitors. Apathy at this point will lead to ruin, he stated.

One of the first steps companies should take to meet this challenge is to improve overall performance. This covers a lot of ground, Cunningham explained. It means putting new and better products into the service which is provided. It means being able to find the capital needed in order to invest in more efficient plant. It means finding out what customers want and can profitably use, and providing it for them at compensa-

tory rates. It means providing more new and optional services and selling them to the public. It means attracting good people and developing a strong management team. If telephone companies do these things, the quality of their basic service will improve further, Cunningham believes.

Importance of Service

THIS last item—basic service—is so fundamental for profitable operation that many take it for granted, he said. This is a mistake since a company's greatest asset in competing successfully is the ability to give good service. It is this which wins public confidence in the industry and it is what will lead customers to turn to the telephone company rather than to competitors when it comes to offering new communications services. On the other hand, he stressed, poor or indifferent service will cost the industry friends and threaten its survival as a progressive, profitable business. Most customer discontent centers around service, and no amount of public relations or advertising can counteract the damage.

Telephone companies should not allow the public image of the industry to be one of a cold, impersonal operation. The public should be made aware that the telephone business is still made up of people. This becomes especially important as more and more automation is introduced into the business, said Cunningham. For example, to lick billing problems, telephone companies have come up with automatic number identification—a system that pinpoints the number of the calling party and records it on accounting tape. This system eliminates billing errors, but it also eliminates another point of personal contact between the company and the customer. This points up the need to make certain that those contacts a company still has with the public are

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more satisfying than ever before, he added.

Still the industry should welcome automation since automation and progress go together. In fact, he said, automation is another word for faster, easier, safer, and more efficient methods of getting work done. It helps keep costs down and offers a range of new communications services as yet undreamed of. But automation, he cautioned, is only part of the new picture. People are and always will be the heart and soul of the telephone industry.

Anticipate Demand

A FURTHER step which will have to be taken to meet competition is to make a thorough study of the communications needs and wants of larger business customers. Though this seems obvious, it has not always been done in the past, Cunningham said. The companies have tended to satisfy demand; in the future they will have to anticipate demand or competitors will be there first.

Many of the large business customers who have turned to competitors for private communications systems have criticized the industry's lack of flexibility and speed. They feel the telephone business is rigid in its policies and practices, and uninterested in individual service problems. The sad truth is that in many instances they are right, he stated. Companies must now "double back" and look at service from the customer's point of view.

The telephone industry cannot afford to wait for its competitors to come up with new problem-solving communications devices before going into action. The industry's suppliers are bringing out new equipment which will enable companies to compete more effectively. But at the same time, he stressed, companies must take a new look at their own prod-

uct planning. In the past the telephone industry produced a service and then put a price tag on it. Competition may force a change in this approach.

As an example of what can and should be done to meet competition on its own ground, Cunningham pointed to the initiation by the Bell system of new services such as Telpak and WATS. Both are "naturals" in the communications field, he added. WATS—wide area telephone service—is designed for customers with heavy, long-distance calling needs while Telpak offers tailored private line service for customers with heavy communications needs between fixed points.

Fight Heavy Tax Load

BEYOND improving service and researching the needs of customers, telephone companies should go to work at overcoming the competitive disadvantages such as the heavy tax load and the inability to price services freely.

"The tax load is a crusher," Cunningham emphasized. "As you probably know, we [the telephone industry in New York state] pay state and local telephone taxes that are roughly two-thirds higher than the average for the rest of the country. . . . And our state corporation taxes are more than twice as high as those on a general business. On top of all this our service is saddled with a wartime emergency luxury tax—the 10 per cent federal excise tax. . . . it means that all other things being equal, any bid we make on a job a competitor is after, must automatically be 10 per cent higher."

Cunningham said that this problem cannot be licked directly. It can be overcome only through the education of the public, especially the opinion-leading public. It is the industry's job to make this story known—to make it clear that while it welcomes the challenge of competition,

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it deserves the right to compete on reasonably even terms.

The problem of competitive pricing is just as difficult to solve, he continued. To be truly competitive, the industry must be efficient. It cannot count on passing on higher costs to the customer. It must, whenever possible absorb them by discovering better and cheaper ways to do the job. This requires operating ingenuity.

In conclusion, Cunningham said that the problem is one of educating the public to the changing rôle of the telephone companies in the communication field. It is becoming clear that improved operations and intelligent risk taking result in a better product for the customer's money. A company can improve its operations and take risks only in a climate that permits better profits. On the other hand, low profits have the opposite effect, since low profits do not mean low prices.

Low profits frequently mean higher prices to the customer because a company that cannot plan ahead and spend ahead is unable to effect the economies necessary to hold prices down. Good profits—the result of strong management and long-range planning—mean lower costs, and therefore enable management to hold the line on prices to the customer. Preparing the way for good profits means meeting competition squarely and successfully, Cunningham explained.

A warning to telephone company executives that their future prospects were cloudy and uncertain was voiced by William A. Kern, president of the Rochester (New York) Telephone Corporation.

Prediction Comes True

TEN years ago, Kern said, he had predicted before a similar convention of

the association that at least 25 independent telephone companies, all members of the New York State Telephone Association, would lose their corporate lives in the decade ahead if something was not done to equalize the prices for telephone equipment paid by Bell system companies and prices paid by independent companies.

Time had proven his prediction to be modest, Kern said. More than 30 New York companies have merged with other companies or have been reorganized with new managers and REA money.

Kern explained the operation of Western Electric, the Bell system's manufacturing subsidiary, and its modern and efficient make-up which has allowed it to price its high-quality products "at 40 to 50 per cent below" its competitors.

BECAUSE of such Bell system concerns as the New York Telephone Company, he said, the "less fortunate cousins in the independent telephone industry find the going very rough, indeed." At present independent companies must put up \$1.65 to purchase what the Bell company pays \$1 to receive. This is the reason, Kern states, that the investment per telephone for independent companies is considerably higher.

The New York Telephone Company has an average investment per telephone under \$300 while modern independent companies still average about \$50 more per telephone with no outside toll plant. Against this investment, the New York Telephone Company has an annual revenue of \$130 per telephone compared with an average of \$85 per telephone for class A independent, \$72 for class B, and \$67 for class C companies.

To reach even these modest revenues, Kern stated, the independent companies' local rates have to be consistently higher

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than the rates of the New York Telephone Company for exchanges of comparable size.

BUT there are limits beyond which local rates cannot go, he continued, no matter how well justified they might be from the investment or rate base theories. When this situation occurs, the independent has but two paths open: (1) It can seek a larger toll settlement from the New York Telephone Company; or (2)

it can go to the federal government for REA money. If it chooses neither of these, it sells its property and franchise to a larger company or to an individual who will probably obtain REA money to finance his new purchases.

Kern voiced the opinion that if there were some way to equalize prices for telephone equipment throughout the entire industry, the long-range aspects of the independent industry would be excellent.

Regulation of Liquid Methane Gas

THE growing problem of regulating the transportation and use of liquid methane since it arose a little over two years ago is the subject of an article by Henry F. Lippitt, 2nd, entitled "Regulatory Problems in the Development and Use of Liquid Methane" in the May, 1961, issue of the *Texas Law Review*.

He notes that the question of what would be the rôle of regulation in this field was first brought to the fore in 1959 in a talk by former Commissioner William R. Connole of the Federal Power Commission.

Connole predicted the question would become one of increasing attention. He said the difficulty as to any such business "affected by the public interest" was in "measuring how much government intervention is needed." Connole also said that the regulation of transportation and use of liquid methane would be especially entangling because of the "international nature" of the business and because it combined many of the problems of the "oil import dilemma with those in the domestic natural gas issue."

The commissioner, at that time, saw the problems as "whether import permits should be obtained; whether certificates of public convenience and necessity are

necessary . . . [and] the extent, if any, to which government should regulate the price level at which the gas should enter the United States." He suggested that the regulatory agencies, the Congress, and all segments of the natural gas industry should undertake a study of the matter before personal interests interfered with an objective study.

LIPPITT traces the developments in the use and shipping of liquid methane in the past two years. He discusses the strides that have been made by the United States, and also by such foreign countries as England, France, and Russia. He states that in spite of the technological advances in the field of liquefied petroleum gas in the "gaseous energy" field, until recently only relatively little serious work has been carried on in the lower temperature field of liquid methane liquefaction, transportation, and gasification. In view of the large potential, he said, both as to markets and supply, it is certain that further developments will take on new significance both in the domestic and international fields.

Lippitt also provides a history of the art of liquefaction of natural gas in the United States since it was first pioneered

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by the U. S. Bureau of Mines more than three decades ago. In 1941 there was constructed at Cleveland, Ohio, a commercial natural gas liquefaction and storage plant, the only one to date in this country. Following a disastrous fire in 1944, caused by spilled natural gas becoming ignited, no further plants of this type were constructed for commercial use and the development and popularity of the process have been slowed.

In recent years, the *Methane Pioneer*, a 2,200-ton capacity tanker, has completed a number of trips from the producing fields in Louisiana to England for the purpose of marketing methane in that country. In connection with these voyages, the Constock Liquid Methane Corporation applied to the FPC for a disclaimer of jurisdiction or a certificate under § 7 of the Natural Gas Act authorizing construction, operation, and maintenance of facilities which would be required in the project to transport liquefied hydrocarbons from Louisiana to Great Britain. Constock also filed for an order, under § 3 of the act, authorizing the export.

THE company said the filings were made as a part of its experimental project, intended to prove the feasibility and economy of storage and long-range transportation of such liquefied products as methane. Later the application was withdrawn without any action having been taken by the FPC, Lippitt noted.

The most concrete developments on the domestic horizon, he said, concern the efforts of the New England Gas Pooling Group, consisting of 40 New England utilities, to build a liquefied natural gas plant to meet the region's sharp peak shaving needs.

With the nation on the threshold of actual developments in the field, he said, has come the first signs of what will be

the trend of federal regulation in this matter.

In what manner the problem is resolved will come the future scope of the FPC and other regulatory action, and "signposts and precedents for the 'construction, operation, and maintenance' of further projects of this type."

Lippitt listed four situations which must be studied before a decision is made as to the applicability of federal regulatory statutes to liquid methane. They are: (1) The situation in which liquid methane from a foreign port is delivered post side in the U. S. to a coastal state for gasification and distribution within that state. (2) The situation in which liquid methane is delivered by tanker from a domestic source for gasification and distribution within another state. (3) The situation in which natural gas is liquefied in a producing state and is transported in liquid form by pipeline (probably as propane and butane, rather than methane) to another consuming state, where it is gasified and distributed within that state. (4) The general situation in which the natural gas in liquid form is received in a single state and gasified in that state for distribution and transmission to other states. In each instance above not only the factual, but also the legal situations differ.

ONE of the problems, Lippitt points out, is the determination of the question of whether liquid methane is considered to be natural gas subject to the Natural Gas Act. This can be broken down into the questions: Is "methane" natural gas? Is "liquid methane" natural gas?

He says that according to the wording of the Natural Gas Act, and decisions handed down concerning the act, methane (or ethane, propane, and probably but-

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tane) in the gaseous state is "natural gas" subject to the act.

The greater difficulty comes when methane is reduced to a liquid form. After discussing the FPC's actual practices, and the handling of problems involving natural gas liquids by the commission and other agencies, Lippitt concludes that if anyone, the Interstate Commerce Commission, and not the FPC, would have jurisdiction over any interstate transportation of liquid methane.

A great deal of methane, in the future, will probably be transported by tanker, Lippitt says, and it appears clear that there exists a gap in present regulation to cover this problem. When the Natural Gas Act was enacted neither Congress, the FPC, nor the gas industry foresaw the liquefaction of natural gas and its transportation by ship. As to domestic transportation of liquid methane (or, for that matter, ethane, butane, propane, and natural gasoline), the FPC, Lippitt states, has no probable jurisdiction, and any jurisdiction over interstate transportation would fall under the Interstate Commerce Commission. So long as the gas were in the gaseous state, before original liquefaction or after gasification, it would be subject to state conservation commission, FPC, or state public utility regulatory jurisdiction in the same manner as at present.

THE questions which arise when methane is transported to other nations are even more complex, he continues. Here four agencies become involved. A company desiring to export or import natural gas has to obtain permission from the FPC pursuant to § 3 to export or import, and it must obtain a presidential permit to maintain facilities at the border which are to be used for such export or import. Since the Natural Gas Act, Lippitt

notes, was enacted to eliminate the abuses of large interstate pipeline companies, it may be inferred that all the sections of the act, including § 3, are limited in their application to pipeline transportation. "Transportation by other means would, therefore, fall into a jurisdictional gap beyond the court's interpretive power to fill," he concluded. In addition, any "regulatory gap" here is more properly filled by the probable exercise of another federal agency's authority.

The Interstate Commerce Commission's jurisdiction is also vague. Today, under relevant statutes and case law, Lippitt says, the ICC probably cannot assert jurisdiction over tanker shipments of liquefied methane. Part III of the Interstate Commerce Act gives the ICC jurisdiction over certain water carriers, but tanker transportation of methane falls within two different exemptions, and the ICC would probably have to exempt tankers carrying liquid methane from its regulatory jurisdiction.

THE Federal Maritime Board (as of this month, the Federal Maritime Commission) also has no certificate jurisdiction, but it does have rate jurisdiction over "common carrier(s)" in interstate or foreign commerce under the Shipping Act, and over common and contract carriers operating between one state and another by way of the Panama Canal under the Intercoastal Shipping Act, the author explains.

Generally speaking, he says, it is probable that private carriage of liquefied methane is not subject to the rate jurisdiction of the Federal Maritime Board and that contract carriage of liquid methane is not subject to the Shipping Act, except when it involves two U. S. ports and the Panama Canal, in which case it would fall under the Interstate Commerce Act.

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Lippitt does not believe the Oil Import Administrator's office would have any jurisdiction over the import of liquefied methane. Since it is presently impractical to keep methane liquefied at ambient temperatures (60 degrees Fahrenheit) solely by pressure, the application of high pressure would probably not fall under the presidential proclamation's definition of "liquefied gas" in 1959.

LIPPITT concludes that there is little or nothing in the Natural Gas Act to indicate that the FPC has certificate or rate regulatory jurisdiction over transportation of liquid methane either in interstate domestic commerce or foreign commerce by pipeline or tanker. Along the way, however, the successive jurisdiction and requirements of the producing state's conservation commission, the Interstate Commerce Commission, the Federal Maritime Board, and perhaps the Oil Import Administrator, as well as the state public utility commissions in the marketing states, have to be taken into account, Lippitt adds.

He continues:

... Mixing metaphors, to say the least, liquid methane flows in a tangled jurisdictional web of some complexity.

Two years ago, Commissioner Con-
nole posed the questions as to the rôle of regulation in developing the transportation and use of liquid methane. The answers, under present federal regulatory policies, are not yet all in—but the outlines, at least, have been sketched. How long it will be before they are etched in clear perspective depends not only upon technological progress in the state of the art but also upon what new regulatory policies may be required to meet the continually expanding "public convenience and necessity." That day, however, may not be long in coming.

Because of the growing ability to transport liquid methane, especially great distances by tanker, Lippitt believes that the present trends in regulation will have to be carried far enough so as to provide the federal and state governments with adequate regulation over the transportation and use of the gas.

Notes on Recent Publications

ATOMIC RESEARCH PROJECTS. The Atomic Energy Commission has issued a summary of research contracts awarded and supported by the International Atomic Energy Agency. Included in the list are those research projects financed by funds made available under an offer by the United States government to specific foreign governments. The contracts cover a variety of research projects, including (1) disposal of radioactive wastes; (2) health physics and radiation protection; and (3) power reactor studies.

The prime function of the IAEA is to foster the exchange of scientific and technical information on peaceful use of atom-

ic energy. For a research project to qualify for IAEA assistance, it must be scientifically sound and in some way advance the peaceful application of atomic energy. In addition, the project should be of such nature that it could not be easily conducted without IAEA support. In this reference, preference is given to research centers where qualified workers are hampered by lack of funds.

IAEA RESEARCH PROJECTS (TID-11404). Available free from the United States Atomic Energy Commission, Office of Technical Information Extension, Oak Ridge, Tennessee, pp. 16.

The March of Events



FPC Hearings on Gas Prices Set

THE Federal Power Commission has announced it will hold its first public hearings on October 3rd in its major policy program to establish price ceilings for natural gas sold into interstate commerce from the nation's important gas-producing areas.

The commission announced its new area pricing policy about ten months ago in a move to stabilize prices in the producing areas which supply gas ultimately sold to residential, commercial, and industrial customers in all sections of the United States.

The October 3rd hearing involves the

Permian basin area of southeastern New Mexico and southwestern Texas.

O'Connor Takes Office

LAWRENCE J. O'CONNOR, JR., of Houston, Texas, former Oil Import Administrator of the Interior Department, took office on August 14th as a member of the Federal Power Commission for the term expiring June 22, 1966. The oath of office was administered by the Honorable Tom C. Clark, associate justice of the Supreme Court of the United States.

Mr. O'Connor, who is forty-six, was nominated to the FPC by President Kennedy on July 5th and the nomination was confirmed by the Senate on August 9th.

Colorado

Agree to Merger Plan

AGREEMENT on general merger terms has been announced by Public Service Company of Colorado and Colorado Central Power Company. A joint announcement said details were being worked out and will be submitted to directors of both companies. The merger must then be approved by stockholders of both companies and by the state public utilities commission.

The agreement provides that the 3,136

holders of Colorado Central common stock will receive one share of Public Service stock for each $1\frac{2}{3}$ shares of their stock.

Colorado Central serves southern and western suburban areas near Denver with power purchased from Public Service generating plants. The company has no generating facilities.

Robert T. Person, president of Public Service, will be president of the surviving Public Service Company. James W. Cryder, president of Colorado Central,

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plans to withdraw from active management but will continue with Public Service in an advisory capacity.

All-federal Power Setup Supported

A RESOLUTION adopted by the Colorado Water Conservation Board endorsed the proposed construction of an all-federal transmission system for electric power generated by dams of the Upper Colorado river storage project. The resolution further urged the U. S. Bureau of Reclamation to include in its modified proposal a line connecting the Central

Utah project and the Flaming Gorge dam in northeastern Utah with the Glen Canyon dam in Arizona at Sigurd, Utah.

Action by the Colorado board was the first official endorsement of the all-federal system by any of the states involved—Colorado, Utah, Wyoming, New Mexico, and Arizona. However, the Wyoming Natural Resources Board has approved a substitute or "combination" proposal submitted by the five large private utilities in the area provided suitable contracts can be worked out to provide for "wheeling" of the Upper Colorado's power output by those firms.

Maryland

Commission Schedules Hearing

THE state public service commission has scheduled a hearing for October 11th into a dispute between the Potomac Edison Company and the town of Thurmont which is said to have a novel aspect.

Usually, when a utility and a municipality are arrayed against each other before the commission, the government is protesting what it considers unjustifiably high rates by the company. In this case, however, Thurmont operates an electric power company which competes with Potomac Edison and admits the company's contention that the company's rates are lower than its own in the area under dispute.

Potomac Edison initiated the case with a complaint that the Thurmont company,

Citizens Electric Light & Power Company, was extending its power lines outside the town limits without permission from the commission. The company's complaint agreed that the state legislature gave the Thurmont company authority to serve customers up to a half mile outside the town limits. It argued, however, that the same law kept the Thurmont company under the commission's jurisdiction.

R. G. MacDonald, president of Potomac Edison, said in the complaint that the Thurmont company buys energy from his company "and resells such energy at a substantial profit to most of the residents of Thurmont." He objected to the extensions into the surrounding area, which he said had not been authorized by the commission. Potomac Edison has traditionally served this area and does so at lower rates, MacDonald declared.

Nebraska

REA Statement Causes Concern

A LETTER sent by an official of the Rural Electrification Administration is re-

ported to be causing some concern in Nebraska power circles. The letter, from C. L. Schultz, western area electric director, asked that the Nebraska Public

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Power Committee notify the REA "in advance of any firm commitment" of any arrangements negotiated by the committee.

The nine-member committee was created by the 1961 state legislature so those in the Nebraska power industry could work out their own problems through negotiations. The committee is composed of people from the various segments of public power in the state.

Schultz's letter said the REA stands behind the objectives stated in LB 605, the bill which created the committee. Those objectives are to "voluntarily eliminate such overlapping, duplication, and conflict in their operations as are not in the public interest."

But, the letter said, "activities of the committee can have far-reaching effect upon the operations of electric systems financed by REA." The rural systems in the state are the REA-financed ones. They obtain the federal loans at 2 per cent interest rate.

The letter offered the assistance of the REA, if requested, and also said it would, upon request, make available aid from its legal branch in the preparation of applications under another power bill, LB 469. That law goes in to effect in October and requires, with certain exceptions, prior approval by the director of water resources to construct generating facilities and transmission lines carrying over 700 volts.

Pennsylvania

Equipment Producers Sued

PHILADELPHIA ELECTRIC COMPANY and a subsidiary, Conowingo Power Company, Elkton, Maryland, filed 13 civil damage suits against electrical equipment manufacturers that pleaded guilty or no contest earlier this year to charges of price fixing in violation of the antitrust laws.

This was the second group of suits to be filed by investor-owned electric utilities. A group of four midwestern utilities had earlier joined in suits against makers of heavy electrical gear. Federal government agencies and a number of states, municipalities, and regional power authorities also have sued the manufacturers in the wake of the government's successful prosecution of 29 manufacturers

and forty-five of their executives.

Philadelphia Electric entered 11 suits in U. S. district court against 24 of the 29 companies involved in the case. The utility asked for triple damages on overcharges for equipment though it said the exact amount had not yet been determined. It noted, however, that during the period of time covered by the suits, from 1956 into 1960, the company bought about \$68 million worth of equipment from the defendants.

Philadelphia Electric filed its suits on behalf of about 25 public utilities furnishing electric service to consumers in Pennsylvania. These "class actions" leave the door open for other utilities in the state to intervene in any or all of the complaints.

Texas

Transportation Study Asked

A LEGISLATIVE council study of the mass transportation problems of Houston

and other major metropolitan areas has been requested by the state house of representatives. Representative Henry C.

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Grover of Houston, author of the resolution requesting the study, said it should recommend laws necessary to meet the transportation crisis and to ease congestion in the downtown areas of Texas cities.

He noted that more than 7 million cars will be registered in Texas by 1972, if present trends hold up. That would be approximately double the number now registered.

Grover said the future welfare of our cities "depends upon the streets of the business districts being cleared for the expeditious flow of people and goods within our cities."

He extolled mass transportation facilities as "the safest, most economical form of transportation available to the public" and said their efficiency in moving people from point to point is superior to that of privately owned cars.

Washington

Asks Power Rate Study

A PETITION filed with the Washington State Utilities and Transportation Commission by a group calling itself the Committee for Equal Power Rates requested a cost-of-service study of power rates charged by Puget Sound Power & Light Company.

The chairman of the committee said the company charges residents of Thur-

ston county higher rates than residents of King and Pierce counties outside Seattle and Tacoma for the same type of electric service. The petition submitted to the commission was supported by signatures of 3,725 Thurston county residents.

The petition asked that the Thurston county rates be reduced if the requested study does not show justification for the existing rate.

West Virginia

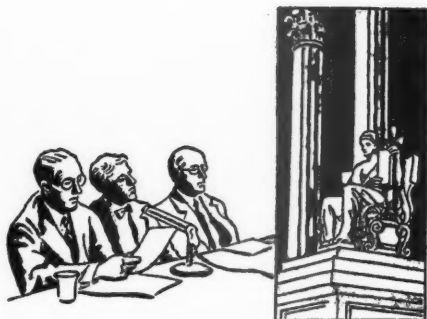
Study of Comparative Rates Presented

A COMPARISON of public utility rates in West Virginia with those of other states was presented to the state legislative interim study committees by the West Virginia Public Service Commission. Submitted to the legislature's joint committee on government and finance and the West Virginia Commission on Interstate Co-operation, the report deals specifically with telephone, natural gas, and electric rates in West Virginia in comparison with other states.

The gas utility table presented by the commission showed that the typical cost of 30,000 cubic feet of gas in Charleston would be \$22.93. This cost was compared

with prices in 16 cities in ten other states. The costs ranged from \$9.63 at Amarillo, Texas, in the heart of a gas field, to a high of \$61.63 at West Palm Beach, Florida. The commission's electric rate table showed substantially less variance among 21 cities in 11 states.

One table presented with the report showed that Chesapeake & Potomac Telephone Company rates in Charleston, Huntington, and Wheeling generally are higher than rates charged by other companies in 17 cities in 11 states included in the survey. But a second table included states with terrain and population densities similar to West Virginia and in these instances the rate differential was not so wide.



Progress of Regulation

Trends and Topics

Dues as an Operating Expense

THE question of allowing dues paid to chambers of commerce or other organizations as an operating expense has arisen in several decisions over a period of years. The Michigan commission recently allowed chamber of commerce dues to be included in the cost of service of a gas company, although objection had been made to such allowance as well as to allowances for charitable contributions and donations to aid industry (38 PUR3d 355). The cost of participating in state and local chambers of commerce had been allowed in earlier cases (36 PUR3d 289).

The question of allowing donations to aid industry or economic development is discussed in 68 PUBLIC UTILITIES FORTNIGHTLY 273 (August 17, 1961), while the subject of charitable contributions is discussed in 65 PUBLIC UTILITIES FORTNIGHTLY 873 (June 9, 1960). As stated there, these expenditures are grouped together in some cases. The immediate question here is whether dues, as distinguished from contributions, are allowable.

Some dues have been excluded in several states; for example, in Arkansas (2 PUR3d 1), California (21 PUR3d 48), Florida (37 PUR NS 440), Indiana (PUR1925C 431), Missouri (8 PUR3d 490; 20 PUR3d 195), and Washington (12 PUR NS 178); but other dues have been allowed.

Payments to Business Organizations

The Tampa Utility Board, although disallowing payments to social, luncheon, and country clubs, allowed payments to Edison Electric Institute, Illuminating Engineering Society, Southeastern Metermen's Association, and American Institute of Electrical Engineering, since these had a relation to the electric light business (37 PUR NS 440).

The Indiana commission ruled that the cost of membership in civic associations by a street railway company, complying with a commission ruling that only one membership in each such association should be included, was a proper operating expense (PUR1931D 455).

The New York commission, in fixing rates for Rochester Gas & Electric

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Corporation, allowed some dues and subscriptions. It was said that the charges unquestionably fell in the category of contributions for the betterment of the social and economic conditions in the communities served. The commission disallowed payments to certain organizations but allowed amounts consisting mainly of dues and contributions to "various utility associations and research organizations." (33 PUR NS 393.) The commission had expressed similar views previously (PUR1933B 205; 18 PUR NS 65).

The Washington commission ruled that club dues for memberships in organizations not reasonably related to the operation of the utility should not be included in operating expense, but it allowed expenditures for payments to the American Gas Association, Pacific Coast Gas Association, and the National Safety Council (3 PUR NS 433). The commission, in a water rate case, ruled that inclusion of membership dues and payments to commercial and civic organizations should not be included as operating expenses, except payments to the American Water Works Association, a trade organization (8 PUR NS 293). The commission, in fixing electric rates, said that payments to civic organizations are not proper charges to ratepayers through the medium of operating expenses (12 PUR NS 178). The commission, in fixing rates for steamboat companies, allowed dues paid to a state ship owners' association (21 PUR NS 177).

Proof As to Business Purpose

The Tampa Utility Board, in reviewing rates for Tampa Electric Company, disallowed dues as to which the company had offered no evidence justifying a charge to ratepayers inside the city of Tampa. The commission said that the ratepayers derived no benefit from payment of such items as \$3,000 to the Tampa Chamber of Commerce, \$625 to the State Chamber of Commerce, and smaller amounts paid to Palma Ceia Golf Club, Rocky Point Golf Club, Tampa Yacht & Country Club; and like sums to other social, luncheon, and country clubs. Allowance was made, however, for dues paid to technical associations having some relation to the electric light business (37 PUR NS 440).

The New Jersey commission allowed membership dues paid by a telephone company where it was shown that they were reasonable and had a beneficial effect upon the creation of service (24 PUR3d 181).

The New York commission disallowed dues of various officials and employees in chambers of commerce and various clubs where the commission thought this violated a statute prohibiting donations for the betterment of social or economic conditions (29 PUR NS 391). The commission, in an earlier case involving rates of Brooklyn Borough Gas Company, said that charitable contributions must not be shifted to consumers, but there was a line between dues and similar costs incurred by management in connection with industry as distinguished from other items. Costs incurred in connection with industry were said to be properly chargeable to operating expenses, although payments to charitable and civic organizations not connected with

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the gas industry but for promoting social welfare were not proper charges to operations (21 PUR NS 353).

The North Dakota supreme court disapproved the commission's allowance of a specific sum for dues and donations where an itemized list had been presented and the commission found that some but not all of the dues and donations were properly chargeable to operating expenses without specifying which were proper and which were not. The court said that in the absence of any claim of bad faith, or that the expenditure for any particular purpose was excessive, this was an attempt to control the management of the utility and beyond the powers of the commission (39 PUR NS 219).

The Pennsylvania commission excluded from operating expenses of Peoples Natural Gas Company dues paid to the Natural Gas Men's Association where there was an absence of information as to services received for these payments, although the treasurer of the corporation was also auditor of the association (43 PUR NS 82).

Memberships in Social Clubs

A distinction has been drawn between dues paid to strictly business organizations and organizations characterized as social clubs. Dues paid to social clubs have been disallowed as an operating expense in California (35 PUR3d 300), the District of Columbia (48 PUR NS 437), Florida (37 PUR NS 440), Indiana (PUR1925C 431), Michigan (36 PUR3d 289), New York (18 PUR NS 65), North Carolina (34 PUR3d 1), and Texas (9 PUR NS 33).

The District of Columbia commission, in fixing rates for the Potomac Electric Power Company, disallowed dues paid to Optimist Club, Rotary Club, Lions Club, Soroptimist Club, and Board of Trade (48 PUR NS 437).

The Michigan commission, although allowing chamber of commerce dues, held that dues for employee memberships in service and social clubs should not be allowed, even though a company receives certain business advantages from such employee memberships and they are a proper business expense (36 PUR3d 289).

The New York commission said that there was no reason why consumers of gas and electricity should be required to pay membership dues and house charges in clubs, athletic associations, and social organizations (18 PUR NS 65).

In a case before the Texas commission the company claimed an expense for club dues to golf and country clubs, business and professional clubs, luncheons, and small donations. The commission said it was probably the practice of the company to pay the club dues and luncheon dues of some of its employees, but the commission thought those dues should be taken care of out of profits or by the employees themselves (9 PUR NS 33).

Review of Current Cases

Electric Company Not Liable for Conversion of Customer's Facilities to Cycle and Voltage Change

THE New York commission ruled that New York State Electric & Gas Corporation properly refused to bear the cost of an industrial customer's conversion of equipment necessitated by a change in power provided by the company from 25 cycles to 60 cycles and a change in voltage from 11,500 to 34,500. It appeared that the cost of converting the customer's equipment would amount to about \$400,000, of which \$300,000 would be applied to adapting electric motors and furnaces to 60-cycle service, and \$100,000 would be expended for a substation and equipment for transforming the 34,500 volts to a usable voltage.

The customer has received 25-cycle service since 1910 from the company and its predecessors. During this period the company has been dependent upon Niagara Mohawk Power Corporation and its predecessors for 25-cycle power. The instant conversion to 60-cycle service is the ultimate result of the collapse in 1956 of Niagara Mohawk's Schoellkopf plant, the major source of 25-cycle power in western New York. The company's supply of power at 25 cycles was reduced by 50 per cent at the beginning of this year and will be completely terminated at the end of 1962. In connection with the conversion, voltage will be changed.

Contentions of Parties

The company contended that it has no legal duty to provide a particular type of service so long as its service is adequate. It disclaimed any duty to provide 25-cycle power upon termination of its supply by Niagara Mohawk and, consequently, no duty to bear the cost of con-

verting customers' equipment under the present circumstances.

The customer, on the other hand, urged that once a utility inaugurates a particular type of service and its customers have adapted their facilities to such service, the utility is obliged to continue the service or assume the cost of converting customers' facilities. That the company chose to obtain 25-cycle power from Niagara Mohawk rather than to generate its own was said to be immaterial. Finally, the customer asserted that the use of 34,000-volt service was the company's voluntary decision.

Spreading Cost of Conversion

The commission observed that the principles generally applicable where an advancement in the arts dictates a conversion by a utility to a more efficient type of service are not founded upon any expressed or implied obligation on the part of the utility to provide a particular type of service. They are merely an application of the statutory requirement that a utility provide adequate, just, and reasonable service on a nondiscriminatory and nonpreferential basis.

Ordinarily, upon a conversion from one type of electric or gas service to another, a utility ought to bear a portion of the cost of converting or adapting the equipment of its customers to the new service. The reason for this obligation is that a change in type of service generally is undertaken in the interest of more efficient operation with resultant benefits to both the utility and the consumers.

The utility alone is in a position

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to spread the cost of these benefits among the consumers.

Cost Spreading Not Applicable Here

But these principles, said the commission, have no application to the instant case involving extraordinary circumstances. The conversion from 25-cycle to 60-cycle service was dictated by circumstances beyond the company's control. While some benefit will accrue to the company from the conversion, the benefit to the consumers as a whole is insignificant when compared with the cost in this instance. The cost of converting the facilities of all of the large power users taking 25-cycle service in the company's western New York division would be in the millions of dollars. The small customers of the company, who will receive no appreciable benefit from the

subject conversion, should not be saddled with its high cost in the form of increased rates, the commission declared.

The same considerations were held to apply equally to the company's refusal to bear the expenses resulting from its failure to continue to supply voltage lower than 34,500 volts. There is nothing arbitrary in the company's decision to render uniform service in a particular area, and an exception should not be made for the benefit of one customer in preference to, or to the detriment of, others. In any event, it was noted that the complainant will enjoy a considerable saving under a tariff provision allowing a 10 per cent reduction in demand charge where the customer provides its own transforming equipment. *Simonds Saw & Steel Co. v New York State Electric & Gas Corp. Case 21561, June 29, 1961.*



Electric Co-operative Has No Standing to Restrain Competition by Regulated Company

THE South Carolina supreme court ruled that the commission had no jurisdiction to entertain a petition by an electric co-operative for a cease-and-desist order against a privately owned electric company which had undertaken construction and operations, without new certificate authority, in a new housing development adjacent to the respective territories of the co-operative and the company. The court also held that the co-operative had no standing to seek a cease-and-desist order in this case. The commission had denied the petition.

No Injury to Co-operative

It appeared that the company was not required to obtain new certificate authority for its extension into the adjacent

housing development in view of a statute exempting from certification "an extension into territory contiguous to that already occupied by it and not receiving similar service from another electrical utility." It was held that a co-operative is not an "electrical utility." The term means a utility which is subject to commission regulation.

Another statute allowing "any interested person, corporation, or municipality" to complain against unauthorized construction or operation by an electric utility does not include a co-operative. An "interested" person or corporation, said the court, is one who has a legal right which will be injuriously affected by the proposed construction or operation. Since the co-operative has no exclusive

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franchise to serve the area in controversy, no legal right is invaded by a utility's competition.

Competition with Co-operatives

An electric co-operative may fix its own rates, extend or discontinue its service at will, and enter any rural area regardless of whether such territory is then being adequately served by a privately owned electric utility, said the court.

Co-operatives are free of any control by the commission and are governed solely by their members. But the legislature, in granting these unusual privileges, did not undertake to give a co-operative an exclusive right to serve anywhere, and did not relieve privately owned utilities of the duty to supply electricity within economic reach of their lines even though a co-operative is in a position to render such service. Nor did the legislature undertake to compel those needing electricity to become members of

a co-operative as an alternative to going without service.

The purpose underlying the statutory provisions is to prevent competition between utilities rendering service of the same kind, so as to eliminate waste incident to a duplication of facilities. But these considerations do not apply to co-operatives because they are given an unrestricted right of competition.

Under the appellant's view of the law, the court observed, a co-operative would be enabled to maintain a monopoly. It could prevent the entrance of a private utility into an area which it was serving and compel those needing electric service to buy from it. There would be no means of relief from inefficient service or exorbitant rates, for co-operatives are not regulated. It could not be presumed that the legislature intended a situation of this kind so prejudicial to the public interest. *Black River Electric Co-op., Inc. v South Carolina Pub. Service Commission et al.* 120 SE2d 6.



City May Charge Higher Rates to Nonresidents

THE supreme court of Washington overruled objections by a water district to higher rates charged by the city of Bremerton outside of city limits. The district formerly owned its water system and supplied water to residents of the district.

Later, the district conveyed the water distributing system to the city. Rates were restricted for a three-year period, which had expired.

The district contended that political boundaries alone do not justify a differential in rates between customers who reside within and those beyond the fixed boundary, and that different rates resulted in unconstitutional discrimination. The court, however, said that the legisla-

ture recognized the propriety of different rates to different classes of consumers. The applicable law permits a city, in classifying customers served, to consider location within and without the city or town.

Rates established by city ordinance were identical for all users within each class, and the court said that when discrimination in rates charged a particular class is claimed, the burden of proof rests upon the one who asserts it. The evidence failed to establish that the class of patrons residing outside the city boundaries could be served by the city as economically as those residing within its corporate limits. *Phinney Bay Water Dist. et al. v City of Bremerton*, 362 P2d 358.

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Co-operative Has No Standing to Seek Cease-and-Desist Order against Municipal Encroachment

THE South Carolina supreme court dismissed an appeal by an electric co-operative from a judgment which agreed with the commission that the latter had no jurisdiction to regulate or restrict the electrical utility operations of a municipality and that the co-operative had no standing under the South Carolina Electrical Utilities Act to ask for a cease-and-desist order against the municipality for invading the co-operative's territory.

The co-operative had asked the commission to restrain the city of Orangeburg from extending its utility operations into an area outside the city limits which the co-operative claimed to be occupying and serving. The commission sustained the city's objections to its jurisdiction and to the standing of the co-operative to

seek a cease-and-desist order in the matter. The co-operative then brought a judicial action to set aside the commission's order. On both jurisdictional grounds the trial court affirmed the commission.

The high court of South Carolina considered it unnecessary to determine whether the commission is empowered to restrict or regulate the electrical utility operations of municipalities outside of their corporate limits. It was sufficient that the co-operative had no standing to seek the cease-and-desist order under the Electrical Utilities Act. Therefore, on this ground the lower court was affirmed and the proceedings dismissed. *Tri-County Electric Co-op. v Snow et al.* 120 SE2d 14.



Commission Decision on Crossing Protection Upheld

AN order of the Pennsylvania commission denying an application for approval of the installation of automatic flashing light signals and short-arm gates in lieu of the protection presently afforded by a crossing watchman on duty twenty-four hours daily at a crossing at grade was upheld by the Pennsylvania superior court. The court said that in matters of this nature the power of the commission is broad and exclusive. Courts are reluctant to substitute their judgment for that of the commission. It is only in cases involving a manifest and flagrant abuse of discretion that courts are warranted in reversing the commission. The appellant's argument appeared to be based on the contention that there was no evidence in the case to show the merits of the old system and, therefore, the commission abused its discretion by

ignoring the only evidence in the case, which related to the merits of the proposed new system. The court could not accept this argument, unless it was "prepared to say that in every case automation is better than personal supervision."

The record contained evidence in support of the order. It was admitted that the present system had stood the test of time and that by its use a perfect no-accident record had been established at the crossing for more than five years. There was no evidence that conditions at the crossing had changed or would change in the future. The advantage of the present system was said to be the personal attention and warnings by voice and bell frequently given to users of a crossing by attendants at the gates. *New York C. R. Co. v Pennsylvania Pub. Utility Commission*, 171 A2d 635.

Competition Question Not Involved in Authorization of Transmission Line by Public Power District

THE Nebraska supreme court overruled a commission decision that Consumers Public Power District should not be authorized to build an electric transmission line. Twin Valleys Public Power District objected to approval of the application, contending that the commission has statutory power to prevent a duplicating construction. The court disagreed.

The primary issue was said to be whether the commission had the power to prescribe the territory in which a "public power company" may render service. The Constitution invests the commission with the regulation and general control of common carriers. These two power districts, although public utilities, are not "common carriers."

The court concluded that the commission's power to prohibit construction of a transmission line must be based upon a finding that a proposed line does not conform with the statutes relating to safety and efficiency. A provision that the commission shall take into consideration the fact of the "prior occupancy of the senior company," according to the court, cannot be construed as a grant of power to control and regulate public utilities, particularly "public power companies." The commission is to see to it that transmission telephone and telegraph lines already in the area are protected as to their safety, operation, and efficiency. *Re Consumers Pub. Power Dist.* 109 NW2d 372.



Discontinuance of L.C.L. Railroad Service Disapproved

THE Missouri commission disapproved a proposed railroad tariff which would restrict service at certain stations to "carload freight only, except that less than carload freight will be handled when loaded with carload freight or in lots of 6,000 pounds or more to one consignee or from one consignor, provided it is unloaded by consignee or loaded by consignor on public team or private industry tracks and does not require freight house handling."

Purpose of Proposed Tariff

The railroad claimed that the purpose of the tariff was not to provide for discontinuance of l.c.l. shipments of less than 6,000 pounds but to provide that any such shipments that are handled will be charged for as 6,000 pounds and that such provision was published in an effort to make its l.c.l. business compensatory.

The company has no other tariff that provides shipments weighing less than 6,000 pounds will be accepted and charged for as such. Its only provision for a minimum charge on l.c.l. shipments is the minimum charge rule which provides that the minimum charge on an l.c.l. shipment will be the applicable rate multiplied by the actual weight but in no case less than \$4. The commission concluded that as published the proposed tariff clearly constituted a restriction against the acceptance of l.c.l. shipments weighing less than 6,000 pounds and could not be construed as a provision for accepting such shipments provided they are charged for as 6,000 pounds. It pointed out that a carrier may not lawfully collect or charge a greater or less or different rate for service it performs than the charges set out in its tariff. Whenever charges are based on actual weight, a carrier has just

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as much responsibility to correct a billed weight if it is more than actual weight as it does to correct a billed weight that is less than actual weight.

Discrimination Question

It was the railroad's offer to make whatever tariff changes might be deemed necessary by the commission to effect its purpose of continuing to accept l.c.l. shipments weighing less than 6,000 pounds at the stations involved in this proceeding, but to make a charge therefor on the basis of 6,000 pounds. This would require a change in the tariffs, but such a provision would involve long- and short-haul rule departures. For example, a shipment could be made from St. Louis to Eldorado Springs for as little as \$4 but to the intermediate point of Clinton a shipper would be required to pay for 6,000 pounds or, for class 70, a charge of \$86.40. It would be possible that such shipments could be identical except for destination. The commission held that there was nothing in this record to warrant such discrimination.

Furthermore, the evidence did not establish that charges which would be made for any shipment weighing less than 6,000 pounds to or from the affected stations would be more commensurate with the cost of providing the service than present charges or that the resulting charges would be otherwise just and reasonable. As a matter of fact, for any such shipment of 338 pounds, which was the average weight handled in February, a charge based on 6,000 pounds would be exorbitant.

Service Obligation

The record in this case indicated that the railroad was handling very few, if any, l.c.l. shipments weighing 6,000 pounds or more to the stations involved. Thus, for all practical purposes the proposed tariff would constitute discontinuance of l.c.l. service to these stations. The commission noted that as a common carrier, the railroad has a duty to provide service to the people of the territory occupied and that there is more to be considered than the question of a loss on a certain type of shipment in determining whether the carrier should be authorized to discontinue a portion of its common carrier service. A carrier's service obligation cannot always result in a profitable operation on each and every shipment handled.

The company no longer provides passenger or express service facilities and is now a common carrier of freight only. If the company were permitted to discontinue the handling of shipments weighing less than 6,000 pounds, it would cease to be a common carrier of freight to a large segment of the shipping public. It concluded that it was contrary to public interest to allow the railroad to discontinue this service.

The commission said that so long as the railroad continues to provide a common carrier freight service at its stations such service should be a complete one for both l.c.l. and c.l. shipments and that the rates published for such service should be free of discrimination and otherwise just and reasonable. *Re Missouri-K.-T. R. Co. Case No. 14,668, June 29, 1961.*



Intervention by State Commission in FPC Gas Case Requires Only Notice of Intervention

THE federal appeals court for the District of Columbia ruled that a state

commission may intervene in a Natural Gas Act proceeding before the Federal

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Power Commission merely upon giving notice of intervention. The court set aside an order by the federal commission denying intervention by the New York commission, upon such notice, in certificate cases involving natural gas producer sales and rates in Texas and Louisiana.

None of this gas would go to New York, but in denying intervention the federal commission assumed the truth of the state agency's allegations that the fields from which the gas originates are important sources of supply for pipelines serving New York. It was argued that the price of New York gas would be affected by the price authorized in the certificates requested in these cases. The Federal Power Commission took the position that the state agency was entitled to intervene only upon showing an interest over and above that evidenced by the filing of a notice of intervention, and that it failed to make such a showing.

Statute and Rules

Section 15(a) and (b) of the Natural Gas Act, 15 USCA § 717 n(a) and (b), permissively provides that the commission, in accordance with such rules as it may prescribe, "may admit as a party any interested state, state commission . . . or any other person whose participation in the proceeding may be in the public interest." Under the federal commission's rules, intervention may be initiated "by the filing of a notice of intervention by a state commission, including any regulatory body of the state or municipality having jurisdiction to regulate rates and charges for the sale of . . . natural gas . . . to consumers within the intervening state or municipality.

"We read this language as meaning

what it says," the court declared. It permits a state commission to participate as intervener by filing a notice of intervention. No application for permission is required. The state commission initiates its own participation as intervener in behalf of consumers. The court contrasted this intervention with that allowed other parties, who may intervene only on "order of the commission upon petition to intervene." Such other parties must show a right or interest of such a nature that intervention is necessary or appropriate to the administration of the statute.

The federal commission's rules relating to co-operation with state commissions, pursuant to statutory policy, provide that an interested state commission may intervene as a matter of right. The interested state commission thus referred to, said the court, is a state commission interested in utilizing the co-operative procedures of the act. Again, only the filing of a notice of intervention is required.

Concurring Opinion Cites Discretion

A concurring judge expressed the opinion that a state commission desiring to intervene must make a showing that it is interested. He thought, however, that the New York commission made a sufficient showing of interest. Section 15 of the act, he said, plainly grants to the commission a discretion, the exercise of which turns upon whether or not a state commission demonstrates an interest in pending proceedings. He urged that the rules and the statute be read together. *New York Pub. Service Commission v Federal Power Commission*, Nos. 15366, 15854, 15910, June 15, 1961.



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Favored Nation Clause Not Activated by Gas Price Derived from Pre-existing Contract

ON remand from the Supreme Court (34 PUR3d 219), the federal appeals court for the third circuit undertook to determine two further questions in the controversy between Shell Oil Company and Texas Gas Transmission Corporation over producer rates.

Shell had a contract with Texas Gas providing for a price of about nine cents per Mcf, subject to a "favored nation" clause. In 1943 Texas Gas had contracted with Atlantic Refining Company for gas at a specified price for the first five years and for succeeding five-year periods at prices to be determined at the beginning of each period. The 1943 contract provided that if the parties were unable to agree on any periodic increase, the matter should be submitted to arbitration, and arbitration procedure was specified. Negotiations between Atlantic and Texas Gas for the five-year period beginning in 1953 terminated in a letter agreement in 1954 providing for a price of 12.5 cents per Mcf.

Shell contended that this letter agreement triggered its "favored nation" clause. The commission examiner agreed, but the commission reversed him (22 PUR3d 94). The court of appeals vacated the commission's order, holding that the Texas Gas-Atlantic letter agreement triggered a price increase for Shell (28 PUR3d 164).

The Supreme Court held that the appeals court erred in its interpretation of Shell's "favored nation" clause and that the commission correctly construed it as not effecting an increase in price by reason of the Texas Gas-Atlantic letter agreement. It was noted that Shell conceded that its "favored nation" clause would not be triggered by higher prices

paid by Texas Gas to other producers under pre-existing contracts by way of automatic increases or increases mathematically determined.

Shell argued that the 1943 Texas Gas-Atlantic agreement did not provide for a fixed and determined price beyond the first five-year period, so that enforceability was suspended until the contract price for a particular succeeding five-year term was supplied by agreement or arbitration. From this premise, Shell contended that neither Texas Gas nor Atlantic was under any enforceable obligation to continue the prior relationship at the end of the second five-year period and that when the second five-year period came to an end and the two parties entered into the 1954 letter agreement, they were not acting pursuant to any pre-existing obligation but were exercising their free choice to enter into what was, in effect, a new contract.

The commission argued that there was no doubt about the enforceability of the 1943 Texas Gas-Atlantic contract and that the issue was immaterial because the parties had treated the contract as binding. The appeals court had assumed, without deciding, that the 1943 contract was enforceable and held that the 1954 agreement was a separate contract.

Enforceability Issue Is Material

The Supreme Court remanded the case to the appeals court to determine whether the enforceability issue was material and, if so, to pass upon its merits. If a price agreement for the third five-year period was not enforceable under the 1943 Texas Gas-Atlantic contract when the second period expired, the 1954 letter agreement between Texas Gas and Atlantic

triggered the Shell-Texas Gas escalation clause. Therefore, the question whether the 1943 contract was enforceable with respect to the 1954 price agreement, said the appeals court, was most material.

Contract Held Enforceable

On the question of enforceability of the 1943 Texas Gas-Atlantic contract, the appeals court pointed out that the 25-year continuity of the instrument was clearly expressed and that its intent to have binding prices throughout its term was evident. Starting with this purpose of the parties, the court went to the arbitration provisions—the key to the question of enforceability. It plainly appeared to the court that if arbitration were necessary to arrive at a price, the prescribed method would produce the contemplated price. And the mechanics of the stated

procedure followed through acceptably to that end.

The court rejected the idea that the flexible pricing arrangement of the contract made it severable to the degree that it would not come into effect with respect to the periods beyond the first until the actual price for each had been determined. The motive behind the periodic price adjustments, it was noted, was recognition of the probabilities of normal price variation in gas during the long duration of the contract. It was held that the Texas Gas-Atlantic contract contained a valid, workable price-fixing standard. Therefore, Shell's "favored nation" clause was not activated by the 1954 price agreement of 12.5 cents, and the commission order was affirmed. *Shell Oil Co. v Federal Power Commission, No. 12,568, June 15, 1961.*



Subpoena for Expert Testimony Properly Denied In Pipeline Gas Supply Proceeding

THE United States appeals court for the District of Columbia circuit affirmed the Federal Power Commission's refusal to issue a subpoena duces tecum to compel the production of certain expert evidence relating to the feasibility of a local gas distribution project which required a gas supply from an interstate pipeline. Application of Blue Ridge Gas Company for a supply of natural gas from Atlantic Seaboard Corporation placed the feasibility of its proposed distribution project in issue. The commission was bound to protect present and potential users of Atlantic's gas supply from the diversion of gas to a project which might be financially unfeasible. On this point Blue Ridge presented an engineering study. An intervener, who opposed the application, requested a subpoena duces tecum for the production of

a report by the same engineer on the feasibility of an earlier but similar project for the predecessor of the present applicant gas company. The commission declined to grant the subpoena for expert testimony of this nature, in the absence of an agreement for appropriate compensation.

The intervener contended that the commission should not have considered this compensation factor because the matter sought was allegedly relevant and material. The Administrative Procedure Act provides that "subpoenas shall be issued upon a statement or showing of general relevance and reasonable scope of the evidence sought." Whether a subpoena calling for testimony of this nature is of "reasonable scope," said the court, is primarily a procedural problem for the commission, particularly since it is in a

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better position than the courts to judge the proper method of compensation for expert testimony.

The intervener also urged that the commission should have reopened the record to show changes in the rate schedules of Atlantic which might affect the feasibility of the project. It was pointed out that if the commission were required to reopen in every such case, the consummation of the administrative process would be delayed interminably.

Nonjurisdiction Discussed

Chief Judge Miller, concurring in the

result, took the position that the subpoena should have been denied on the simple ground that the commission had no jurisdiction to pass on the feasibility of the local distribution project. Under §§ 1(b) and 7(a) of the Natural Gas Act, Judge Miller asserted, the commission is not authorized to make an independent investigation concerning the economic feasibility of a local project but should only ascertain that it has been legally authorized by state authority. *Virginia Petroleum Jobbers Asso. v Federal Power Commission*, No. 15750, June 22, 1961.



Appeal from Orders Amending Licenses Is Dismissed for Lack of Issues

THE federal appeals court for the fifth circuit dismissed petitions by Alabama Power Company to review orders of the Federal Power Commission which purported to amend licenses previously issued to the company under the Federal Power Act. The company had asked the commission to amend its license to develop power on the Coosa river in relation to the Jordan dam. Denying this request, the commission, without hearing, undertook to amend the Jordan dam license in a manner wholly unacceptable to Alabama Power, and also to amend two other existing licenses of the company. Alabama Power contended that these amendments were not binding and that they could not be forced upon it.

The commission indicated that its orders of amendment would stand as final and binding unless attacked by petition to the court to vacate them. It was also indicated by the commission that its orders were *proposed* amendments which, if accepted, would be controlling in the enjoyment of the licenses by the company.

It appeared to the court that the commission had conceded the only point raised by the company: That the commission's orders did not unilaterally amend the existing licenses. Since the company did not seek to set aside the commission's orders, as orders, but merely sought a determination that it was not bound by the proposed amendments not accepted by it, the court found nothing remaining for it to pass upon. Under the Federal Power Act, it was pointed out, the company may refuse to accept alterations of its licenses, in which event they are left unamended.

Dissent Would Protect Company

Judge Cameron agreed with the majority that the company may refuse the amendments and thereby leave the licenses unamended. But he disagreed with the proposition that the commission had conceded the only point raised by the company on appeal; i.e., that the commission's orders did not unilaterally amend the existing licenses. By simply

dismissing the petitions for review, said the judge, the company is probably left with nothing to plead as *res judicata* in the event the commission should ever assert that its orders did unilaterally amend the licenses.

Judge Cameron indicated that Alabama Power was not merely shadowboxing in this proceeding. The company has millions of dollars at stake in its projects, so that it would naturally seek to avoid any jeopardy to its existing rights, or those in contemplation, in its effort to expand them. The federal administrative agencies, said the judge, "are disposed to

claim as much power as is humanly possible under the law and in many cases power that they do not possess." Nor have the courts been niggardly in approving their grasps of power, he added.

The petitioner had asked the court to set aside the commission's orders and modify them to show that the commission recognized that the proposed amendments were not binding. General relief was also asked. Judge Cameron thought the ends of justice required that the petition be granted. *Alabama Power Co. v Federal Power Commission, Nos. 18658-18660, June 21, 1961.*



Redesign of Electric Facilities to Prevent Power Failures Recommended

THE New York commission adopted the findings and recommendations of its principal electric engineer relating to steps to be taken by Consolidated Edison Company in order to prevent a recurrence of a power failure such as occurred in New York city on June 13, 1961. The power failure had caused serious inconvenience and hardship to the public, occurring as it did during the 5 o'clock rush hour in the mid-Manhattan area.

Two contingencies, that is, loss of two high-voltage feeder circuits resulting from the failure of two circuit breakers, occurred where only one contingency had been provided for. Four networks were out of service for periods varying up to about four and one-half hours. The service interruption was caused by failure of two recently installed circuit breakers which had a rating well above that required for the load at the time of interruption. There was no overload condition. The failure was due solely to defects in manufacture of the circuit breakers. The protective relay system had operated as

planned. With the first circuit out of service the network supply continued uninterrupted.

Because the substations and their supply circuits had been designed on a one-contingency basis, loss of the second supply circuit resulted in interruption of supply to the networks. The engineer found that if the substations and their supply circuits had been designed by the second contingency criterion there probably would have been no service interruption. He concluded, however, that the faults in the circuit breakers could not have been found by any practicable inspection procedures, and when these faults did cause an interruption, service was restored as promptly as safety considerations would permit.

Because of the single contingency design of network supply substations there is a distinct possibility of a recurrence of the service failure. Concurrent failure of high-voltage equipment on two supply circuits may result in an interruption. However, the cost of installation of a

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two-contingency high-voltage system is quite high. For this reason and also because the particular problem which caused the June 13th blackout in New York city was thought to be relatively remote, it was felt in the past that a two-contingency design for network supply substations would not be economically practicable. But recent experience has shown that the potential dual failure of network supply substations is a distinct reality. In view of far-reaching effect of such widespread service interruptions, it was therefore recommended that Consoli-

dated Edison be directed to change the design of its bulk substations in high load density territory so that the loss of two substation transformers or their supply circuits at one time would not result in interruption of service from the related networks. In other words, said the commission, Consolidated Edison should be required to apply the second contingency concept now used in the low-voltage networks and their feeders to the design of bulk substations and their supply circuits. *Re Consolidated Edison Co. of New York, Inc. July 19, 1961.*

Other Recent Rulings

Taxes and Accelerated Depreciation. The Ohio commission, in authorizing a modified electric rate increase, continued its policy of passing on to ratepayers the federal tax savings resulting from the company's use of accelerated depreciation. *Ohio Edison Co. v City of Mansfield, No. 27,029, May 26, 1961.*

Telephone Rate Increase. The Ohio commission authorized a telephone company to increase rates to a level calculated to yield a return of 5.5 per cent on a reproduction cost rate base, and, in doing so, it rejected the company's argument that it was entitled to a return of 7.75 per cent. *Re Ottawa Teleph. Co. Case No. 29,241, May 26, 1961.*

Air-conditioned Buses. In authorizing the D. C. Transit System, Inc., to convert its remaining rail lines to bus operation, the District of Columbia commission required that the new buses to be purchased prior to the actual conversion date shall be air conditioned, the theory being that such a program will constitute an

important improvement in the quality of service and will keep the company's equipment in a state of efficiency corresponding to the progress of the industry. *Re D. C. Transit System, Inc. PUC Nos. 3648 et al. Order No. 4760, June 21, 1961.*

Hawaiian Airlines. The supreme court of Hawaii, on reviewing an air carrier rate order of the Hawaiian commission, held that pursuant to the statute providing for admission of the state of Hawaii into the Union jurisdiction of the Civil Aeronautics Board over air commerce between places in the state of Hawaii was continued for a transitional period and that this federal-state arrangement constituted a valid means of furthering the orderly assumption of the state's duties with respect to air carriers. *Re Island Airlines, Inc. 361 P2d 390.*

"Transit Bus" Defined. An Ohio appeals court, reversing a lower court, ruled that a bus operating between several municipalities within a metropolitan area was a "transit bus" within the meaning

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of a license tax statute applying to a "transit bus" providing service "primarily in a municipality or municipalities." *Greyhound Corp. v Jeffery et al.* 175 NE2d 111.

Telephone Rate Increase. The Wisconsin commission authorized a telephone rate increase calculated to yield a return of 6.6 per cent and, in doing so, allowed a higher maintenance cost than the average cost for telephone utilities of similar size and characteristics, saying that the higher maintenance cost was warranted for this company because of certain geographic problems in its operating territory. *Re New Franken Teleph. Co.* 2-U-5567, June 23, 1961.

Rate Discrimination. A telephone co-operative's rate schedule which offered only one grade of service—namely, multiparty residence service—was discriminatory and unreasonable in that it failed to provide for a business classification, according to the Wisconsin commission, and, therefore, the co-operative was ordered to provide for a multiparty business rate in recognition of the higher calling rate and the greater value of service to business subscribers. *Re Yuba Teleph. Co-op.* 2-U-5555, June 30, 1961.

Extended-area Telephone Service. The Wisconsin commission authorized General Telephone Company of Wisconsin to establish extended-area service between two exchanges and to increase rates in one of those exchanges where the new service was in the public interest, would not impair the efficiency of service at the affected exchanges, would not provide facilities in excess of probable future requirements, and would not add

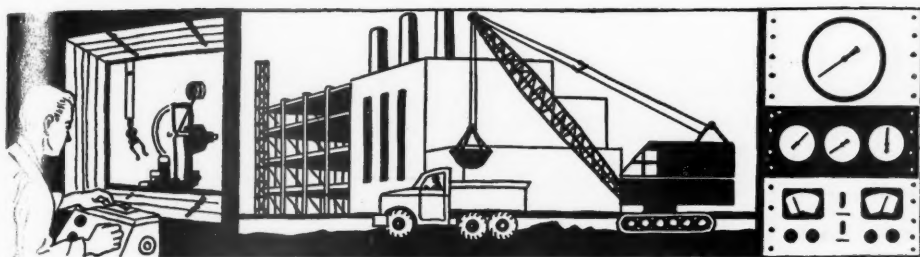
to the cost of the service without proportionately increasing its value or availability, and the resulting return would amount to 5.34 per cent, such a return being deemed reasonable. *Re General Teleph. Co. of Wisconsin*, 2-U-5569, July 7, 1961.

Trackless Trolley Extension Denied. The Wisconsin commission dismissed a complaint by the city of Milwaukee requesting that it order an extension of a trackless trolley route, upon a showing that the large expenditure which would be necessary to construct trackless trolley overhead, wires, supports, etc., was not economically justified at the time, and further that the company had plans for converting all of its trackless trolley lines to bus operation within a few years. *City of Milwaukee v Milwaukee & Suburban Transport Corp.* 2-SR-3957, July 17, 1961.

Electric Rate Increase. The Columbus and Southern Ohio Electric Company was authorized by the Ohio commission to increase rates to a level calculated to yield a rate of return of 3.98 per cent where existing rates were yielding a return of only 3.32 per cent, such a return being deemed insufficient. *Re Columbus & S. Ohio Electric Co.* Case No. 28,858, July 21, 1961.

Rates for Extended-area Telephone Service. The Wisconsin commission granted the Wisconsin Telephone Company a nominal rate increase for one of its exchanges to offset part of the loss in revenue resulting from the establishment of extended-area service to that exchange calling area. *Re Wisconsin Teleph. Co.* 2-U-5583, July 24, 1961.

Industrial Progress



Appliance Men See 1961 Sales Gains

AMATEUR generally depressed sales of most of the home appliance industry so far this year, the Gas Appliance Manufacturers Association factory shipments of built-in gas ranges and gas central heating boilers appear to be headed for new highs in 1961.

AMA's mid-year business forecast reflects the mounting optimism among manufacturers that sales will be progressively stronger, Edward Martin, the trade group's director of marketing and statistics, explains. Shipments of all gas appliances in the final six months of this year, he points out, are expected to average 18.5 per cent higher than they were in the first half. Then this year's 12-month totals in, the gas equipment producers expect that in addition to setting new records for built-in ranges and boilers, their sales of water heaters and central heating furnaces will be expected only by the all-time highs set that equipment in 1959.

The accelerated sales activity should continue and gain momentum through 1962, Mr. Martin says. Substantial unit increases over the predicted 1961 levels are anticipated for all gas product lines on which AMA maintains statistical records. In the aggregate, the rise could be as high as 8.3 per cent over the 1961 predictions.

Survey Finds Electric Power Companies a \$20 Million Annual Market for Remote Control Devices

AMERICA's electric power industry will provide a \$20 million annual market for remote control systems, according to a market survey prepared by Moore Associates, Inc.

According to James B. Bullock,

vice president of Moore Associates, Inc., the electric power industry is historically one of the pioneer users of remote control equipment. The industry has traditionally used these systems for load dispatching, operation of circuit breakers, substation transformer switching, and the remote start-up of computer directed steam turbine generators. As the power companies increase their kilowatt capacity, the need for remote control and telemetering equipment will also increase.

New advances in the power industry will require several new remote control products, Moore's survey also found. Some of these products include a select station, function, and command control system, an analog to digital converter for telemetering of volts, amperes, etc., and relay-type control units for simple switching techniques requiring several monitoring or control functions at one point of a direct current loop.

Moore Associates, Inc. is a pioneer in the design and development of solid state remote control and supervisory systems. They are a leading manufacturer of such systems for industrial and military applications.

Gas Turbines to Help Reno Utility Meet Peak Power Demands

THE first of two 11,300 kilowatt gas turbine generator power plants is scheduled to go into service next November 15th at the Tracy substation of the Sierra Pacific Power Company 17 miles northeast of Reno, Nevada, it was announced recently.

Westinghouse Electric Corporation will supply the twin units, both self-contained and controlled automatically, on a "turnkey" basis, which includes installation. The second 11,300 kilowatt gas turbine generator package unit will be in operation at the

Tracy substation during the second half of 1962.

Both power plants will be tied into the electric system of Sierra Pacific Power, which serves west central Nevada and the eastern Sierra region of California. Unattended, the plants will be operated from remote locations when needed to supply electricity to meet peak seasonal demands.

The gas turbines are being built in the Westinghouse steam division at Lester, Pa. The East Pittsburgh divisions of the company will furnish the generators and supervisory controls while the motor control centers and switchgear are being built at the Sunnyvale (Calif.) division of Westinghouse.

Ebasco Services Names Bottcher Director of Manufacturing

HERMAN F. BOTTCHER has been named director of manufacturing and operations services for the Management Consulting Division of Ebasco Services Incorporated, it was announced recently by Harold H. Scaff, vice president of the management consulting, engineering and construction firm.

He succeeds John D. Cassidy who has been named director of industrial management consultation for the division.

Mr. Bottcher was formerly a senior consultant on Ebasco's New York office staff. Before joining Ebasco, he held manufacturing and engineering posts with E. R. Squibb & Sons and Aluminum Company of America.

Southern California Edison Huntington Beach Station In Full Operation

TWO new generating units at Southern California Edison Company's Huntington Beach steam station are now in full operation, making it the largest single power source on the

(Continued on page 16)

Edison system, it was announced recently.

With completion of the fourth unit, rated at 225,000 kilowatts, the station now has a total generating capacity of 870,000 kilowatts—enough electricity to serve a city of more than a million population, according to James F. Davenport, Edison executive vice president.

The huge installation now represents a total Edison investment of about \$110 million, Mr. Davenport said. He termed the station "a model of engineering automation which utilizes all the latest advances in the art of producing electricity from steam."

According to the announcement, the Federal Power Commission rates Huntington Beach steam station as the second most efficient generating plant utilizing gas or oil as fuel in the nation—second only to Mandalay steam station, another Southern California Edison facility, near Oxnard.

Among the technological advances which the station embodies are "mechanical minds" for the two newest generating units. These "minds" can remember as many as 2,000 jobs to be done in starting, stopping and assimilating data from the units' operation, Mr. Davenport pointed out.

Units 3 and 4, he noted, will be recorded as the first on the West Coast to be fully automated.

Principal contractor in designing and erecting the station was Bechtel Corporation, internationally renowned engineers and constructors.

Rome Cable Issues Booklet On Tubular Accessories For Overhead Conductors

"ADVANCED Design Tubular Accessories For Overhead Conductors," is the latest publication for electrical utility engineering and purchasing departments, by Rome Cable Division of Aluminum Company of America.

Revising and expanding previously available material, the new booklet provides a comprehensive, convenient listing of Alcoa tubular compression accessories for several types and sizes of conductors.

Featured are suggested installation methods, explanatory sketches, and tables listing dimensions, weight and filler compound requirements. Covered is the full range of accessories—dead ends, joints, connectors, repair sleeves and tee taps.

Copies of "Advanced Design Tubular Accessories For Overhead Conductors" may be secured from

any Alcoa/Rome sales office, or on request to 789 Alcoa Building, Pittsburgh 19, Pa.

New Booklet on Outdoor Disconnecting Switches Offered by Westinghouse

A 20-PAGE booklet on hookstick and group operated, 7.2- to 345-kv outdoor disconnecting switches is offered by the Westinghouse Electric Corporation. The well illustrated publication describes the construction and applications of the switches, which include single- and double-throw, single- and multipole types with either manual or electrical operating mechanisms.

For a copy of Descriptive Bulletin 36-250, write Westinghouse Electric Corporation, P. O. Box 2099, Pittsburgh 30, Pa.

"Electricity Powers Progress" Electrical Week Theme

"ELECTRICITY POWERS PROGRESS" . . . will be the theme of the 1962 observance of National Electrical Week, which is scheduled for February 11-17, it was announced recently by the National Electrical Week Committee in New York.

The announcement was made by Harold A. Webster, president of the National Electrical Contractors Association and Chairman of the National Electrical Week Committee, following a meeting of the full committee.

Mr. Webster and the three officers who served to head the 1961 N.E.W. Committee were all re-elected for the 1962 Committee at the same meeting. They are: T. O. McQuiston, vice president, Metropolitan Edison Company, who was re-elected vice chairman of the N.E.W. Committee; A. W. Hooper, executive director, National Association of Electrical Distributors, re-elected secretary, and L. W. O'Brien, relations services, General Electric Company, re-elected treasurer.

In announcing the theme, Mr. Webster said: "The electrical industry intends to concentrate its efforts during the next National Electrical Week on informing our nation of the vital role electricity plays in our economy, our national defense, and our determination as a nation to improve the standard of living."

For the 1962 observance of National Electrical Week, the Committee will again distribute planning guides and materials for nationwide and local observances of the Week. Last February

N.E.W. activities were carried on more than 300 communities in country and in Canada. It is anticipated that this number will be passed in 1962 as a result of the firmly-established recognition of National Electrical Week as an important activity by the various segments making up the electrical industry.

"Many leagues, utilities, manufacturers and others are already planning for the next observance," Mr. Webster noted. "The early planning now going on substantiates our belief that there is increased interest and enthusiasm for National Electrical Week. The Committee is confident that the observance will be one of the most successful ever staged."

National Electrical Week is sponsored by most of the industry's leading trade groups—manufacturers, distributors, utilities, leagues, labor, contractors, and service and repair groups. The 1962 N.E.W. Committee is made up of representatives from all of the sponsoring organizations. In addition, the Week is endorsed by a number of other trade organizations.

B&W Is Awarded Additional \$211,000 Contract by AEC For Spectral Shift Reactor Project

THE Babcock & Wilcox Company announced recently that it has been awarded a \$211,000 contract by AEC for a plant analysis study of heavy-light water moderated reactor known as the "Spectral Shift" Control Reactor. A \$1,223,500 AEC contract for a basic physics study of the reactor was awarded B&W last year.

Under terms of the new contract, Babcock & Wilcox will work with the firm of Stone and Webster Engineering Corp. to make an economic analysis of the reactor system for AEC. B&W will also study area system improvement and establish other criteria required for actual construction.

Under the original contract, successful physics studies have definitely established that reactor control can be accomplished by using mixtures of heavy and light water, thereby making it possible to operate at control rods out of the reactor at low power, company officials reported.

The Spectral Shift Reactor is expected to increase the life of water reactor cores and the efficiency of power consumption, and lower the installation cost of nuclear electric generating plants.

INDUSTRIAL PROGRESS—(Continued)

Dayton Power and Light to Establish Data Processing Center, First in Utility Industry to Employ Magnetic Imprinting

Dayton Power and Light Company plans to establish an electronic data processing center which, according to the announcement, will be the first in the utility industry to use magnetic imprinting on customer

among data processing to be performed at the new center will be revenue accounting, general accounting and engineering studies.

The million-dollar electronic system to be installed at the center will be built around two NCR 315 computers manufactured by The National Cash Register Company. Use of magnetic imprinting will make possible direct "input" of data into the computers. Magnetic imprinting is now being used by many banks to speed up handling procedures.

Mr. Stuart, president of Dayton Power and Light Company, said, "Virtually all of our record-keeping procedures will be speeded up and performed more efficiently when the Center is placed in operation. This includes calculation of bills for more than 525,000 electric gas meters installed throughout the West Central Ohio area."

"The volume of our paperwork and the need for more accurate information have been steadily increasing with the continuous growth of the area," Mr. Stuart, "and the new system will enable the company to continue to meet the growing service needs of its customers."

A key factor in the efficiencies to be provided by the new system, scheduled for installation in the fall of 1962, is the unusual degree of integration, Mr. Stuart said. He pointed out that NCR will supply not only the 315 electronic units, but all necessary auxiliary equipment for preparing media for the computer.

Mr. Stuart said that DP&L systems specialists, headed by Samuel J. Schiml, vice president and comptroller, and assistant comptrollers Arthur E. Gerlaugh and Robert E. McCormick, have worked closely with NCR computer representatives for the past year in developing the data processing procedures to be used at the new center.

Mr. Stuart described the new electronic system as a logical step in keeping the company's record-keeping operations at the highest possible level of efficiency. The utility already is one of the most mechanized in its industry and currently has an extensive amount of electro-mechanical equipment in its accounting operations.

In order to feed the vast volume of accounting facts and meter readings into the new system, several types of NCR equipment will be used. These machines will publish totals of transactions and automatically convert the information into punched tape which can be read at high speed by the computer system.

Meter readings, new meter installations, changes of rates, billings for electric and gas appliances, and all other accounting transactions will be recorded on 13 NCR desk-model bookkeeping machines and eight NCR writer-equipped accounting machines, each linked to a tape recorder. As transactions are recorded, the information is automatically punched in paper tape. The

(Continued on page 18)

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data contained in the punched tapes are subsequently read directly into the computer system.

Monthly bills for electric and gas service will have a customer's account number preprinted in magnetic-ink. Miscellaneous imprinting on new bills, final notices, and other forms will be accomplished by two NCR magnetic-ink encoders.

When the bill stubs are returned for crediting of customers' payments, they will be read by an NCR sorter-reader. The sorter-reader can feed up to 42,000 characters of information a minute directly into the computer. The computer posts the payments to customer accounts which are stored on magnetic-card files. Over 15,000 payments can be electronically posted to customer accounts in 40 minutes.

Other equipment in the system include a high-speed paper tape reader, six magnetic-card memory units, two magnetic tape memory units, and two high-speed printers.

The system, which is now being manufactured by NCR, will be leased by Dayton Power and Light Company.

EEI Power Survey

ELECTRICAL generating equipment ordered by U.S. power systems from domestic sources for the first half of 1961 showed a capacity increase of 28 per cent over the same period last year, according to the Electric Power Survey Committee of the Edison Electric Institute.

A total of 8,798,627 kilowatts of capacity was ordered by the end of June, compared with 6,874,045 kilowatts ordered during the same period in 1960. This brings the total of additions to generating capacity scheduled and on order for the years starting with 1961 up to 47,994,367 kilowatts, of which 36,690,850 kilowatts are in thermal units.

Total orders for steam turbine-generators by all types of purchasers rose 78 per cent over a year ago, while steam generators (boilers) were off 15 per cent. However, analysis of the current survey data indicates that the capacity of steam turbine-generators, 100,000 kilowatts and larger, on order with domestic manufacturers by U.S. power systems for which boilers have not yet been ordered aggregates slightly more than 8 million kilowatts. All but one of these steam turbine-generators are scheduled for commercial operation during 1964 and later.

The individual number of generating units ordered by U.S. power systems totaled 69, a slight increase over last year. The relatively small gain in number of units compared with the capacity increase indicates a continuation of the trend toward the use of larger and larger units.

The Committee noted that the amount of capacity represented by steam units in sizes below 100,000 kilowatts for U.S. power systems is only 7.1 per cent, and that 83 per cent of the capacity ordered was in units of 150,000 kilowatts or more.

New 2½-kva Voltage Regulator For Distribution Transformers Offered by Westinghouse

A 2½-kva self-contained automatic voltage regulator, called UNOREG, is offered by the Westinghouse Electric Corporation. The new regulator and the earlier 1½-kva units are designed for use on the low-voltage side of over 600 standard distribution transformer styles up through 50 kva.

A compact, lightweight design for convenient pole mounting, UNOREG provides plus and minus five per cent regulation of 120/240-volt secondary lines. Since it is a separate device, one style of the regulator can be used with a wide range of distribution transformers, saving up to 50 per cent of present allowable investment for reregulation.

The two major areas of application for the device are: bucking the raised secondary voltage of individual distribution transformers located at the head end of a feeder; and boosting the secondary voltage of individual distribution transformers located at or near the end of a long or heavily loaded feeder.

For further information, write Westinghouse Electric Corporation, P. O. Box 2099, Pittsburgh 30, Pa.

New Line Arc-Proof Power Connectors Designed to Save Time and Money

A NEW line of aluminum arc-proof power cable connectors designed to save utility companies time and money, improve their customer relations and improve lineman safety is being introduced by Steele Manufacturing Company, Inc., Tyler, Texas.

The "Steelco" aluminum arc-proof connectors can be installed "hot" in 45 seconds, if necessary, with complete

safety to the lineman, according to W. O. Steele, president.

"The simple design of the fitting is the reason for their many advantages," Mr. Steele said. "Because the locking, three-piece mechanism does not have to be disassembled for installation, the connectors can be installed on either hot or de-energized conductors much faster than conventional connectors."

"Furthermore, the interlocking and spring action employed in the fittings make it impossible to install connectors in any way but the correct way."

He said the connectors were designed by Everette Lamb, Jr., an engineer with a southwestern utility company, and that the fittings have undergone extensive tests for six years.

Catalogs and samples are available on request from Steele at 2103 323 East, Tyler, Texas.

Largest Transmission Cable Order Goes to Kaiser Aluminum

NEARLY sixteen million pounds of aluminum electrical cable will be in Arizona Public Service Company's vast new 345,000-volt transmission line to extend 300 miles from "Four Corners" power plant in northwestern New Mexico to Phoenix. The total amount is to be supplied by Kaiser Aluminum & Chemical Sales, Inc.

"As far as we are able to determine this is the largest single order of minimum transmission cable from a private utility company in the history of our industry," states J. C. Ferguson, director of marketing for Kaiser Aluminum's electrical conductor division in Oakland.

Fourteen-and-one-half-million pounds of aluminum conductor, steel-reinforced (ACSR), measuring more than an inch in diameter, will be utilized. It is now being produced by Kaiser Aluminum at the company's plant in Newark, Ohio, and will be shipped in two-mile lengths on 90-inch-diameter reels to the construction area.

Starting at the "Four Corners" power generating plant, two lines will run to a power plant near Joseph, Arizona. From there a single line will be constructed to a point near Phoenix where it will connect with the rest of the Arizona Public Service Company system.

This is believed to be the longest extra-high-voltage line (345 KV)

INDUSTRIAL PROGRESS—(Continued)

ever constructed by a private company in the United States.

Wisconsin Public Service to Add 125,000 Kilowatts

25,000 kilowatt electric generating unit to cost about \$20 million will be the next capacity addition to the power system of Wisconsin Public Service Corporation, it was announced recently by Harold P. Taylor, presi-

The new capacity will be installed at the Pulliam plant in Green Bay. By the largest unit ever built by Public Service, it will equal nearly 50 percent of the plant's present capacity which totals 267,500 kilowatts. It will increase Public Service's total generating capacity to 615,500 kilowatts.

The largest previous units installed at the 75,000 kilowatt unit added to the utility's Weston plant in Marathon county last November, and a 75,000 kilowatt unit added to the Pulliam plant in 1958.

Preliminary design and engineering will soon be started, and the actual construction beginning with the laying of the substructure foundation, get under way next spring. The unit is expected to be ready for service in 1964.

The size and timing of this capacity addition has just been decided as a result of joint studies by engineers of the Wisconsin Public Service Corporation and the Wisconsin Power and Light Company. It will be the unit planned by the two companies under the terms of the power purchase agreement completed early this year. Last January, the two companies contracted to pool their power resources following about five years of study to determine the practicability and economy of such an arrangement.

Without the flexibility afforded by power pooling, it would not be feasible to add such a large unit," Mr. Taylor stated. "Larger units offer greater efficiency and permit longer intervals between plant additions. Any excess capacity temporarily available will be sold to the other members of our pool. Thus power pooling already promises important economies which will help offset other rapidly rising costs.

"We need these new economies to keep the selling price of electricity to our customers as reasonable as possible," he added.

Southern California Edison Plans 310,000-Kilowatt Unit

SOUTHERN California Edison Company announced recently that it has filed an application with the California Public Utilities Commission for authority to construct a fourth unit at its Etiwanda steam-electric generating station.

Edison proposes to build another 310,000-kilowatt generating unit at a cost of nearly \$37 million, according to James F. Davenport, executive vice president. He said a "sister" unit—Etiwanda No. 3—was given PUC approval in May and construction has now started.

In its application, Edison said the addition would be needed in the fall of 1963 because of the rapid increase in the use of electric power in Southern California.

Commercial operation of Unit No. 3 is scheduled for May, 1963, Davenport said. Given the authority to start immediately, Edison expects Unit No. 4 would be ready for operation in October, 1963.

Edison's investment in the third unit will be approximately \$43 million. Adding the estimated \$37 million for the proposed fourth unit, the total investment in the Etiwanda station will be more than \$123 million. Building units three and four almost concurrently would result in the substantial dollar savings indicated by the differences in estimated costs, Mr. Davenport pointed out.

The completion of these two new units will give Etiwanda a capacity of 900,000 kilowatts, generating capacity sufficient to serve a city with a population in excess of one million.

The Etiwanda generating station is located on a 270-acre site near the City of Fontana. Other than Edison's experimental nuclear-powered plant at Santa Susana, it is the power company's only inland steam generating station. Its two initial units, rated at 125,000 kilowatts each, were put into operation in 1953.

Mr. Davenport noted that the Etiwanda additions are part of Edison's record-breaking expansion program designed to keep generating capacity a step ahead of Southern and Central California's mushrooming use of electric power. "By year end, 1961, gross construction expenditures for the past ten years will total more than a billion dollars—marking Edison's billion-dollar growth decade," he concluded.

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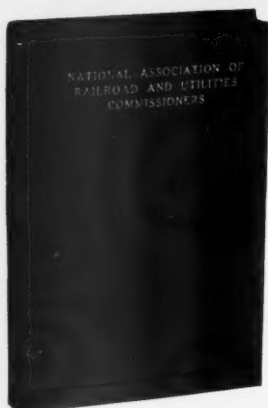


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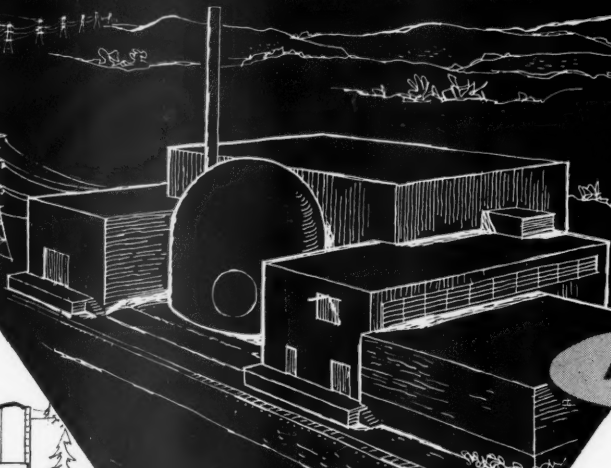
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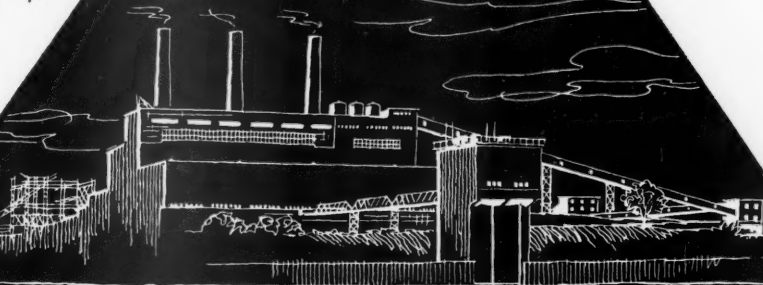
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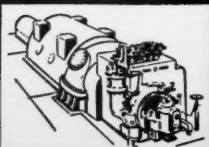
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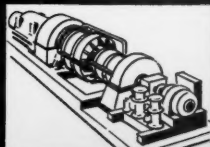
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